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SEP 22 1952
SEPTEMBER, 1952

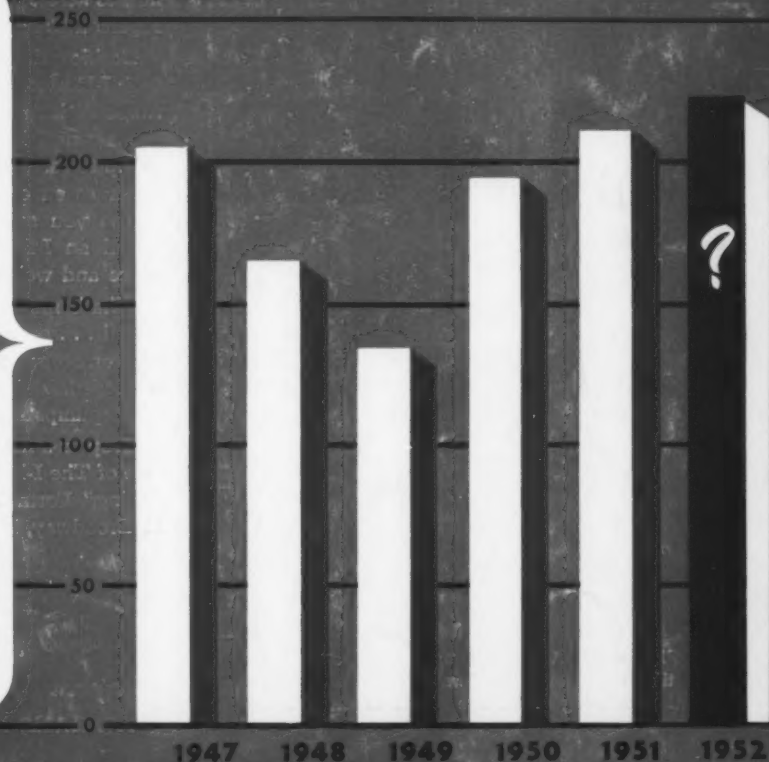
Commercial Refrigeration

AND AIR CONDITIONING

**GROWING
GROWING
GROWING**

Shipments of components and accessories for air conditioning and commercial refrigeration, 1947-1951, as reported by the Bureau of the Census. (For breakdown of figures see Page 57).

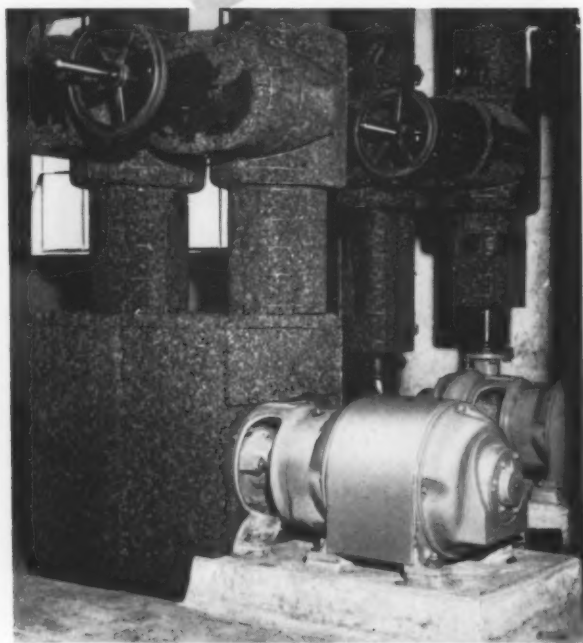
Millions of Dollars



MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF
COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT

memo

Do you need
a good pump
in a hurry
?



Two 15 hp model RV Motorpumps—part of a battery of 18 that circulate chilled water for cooling the Animation building of a large studio in California.

Here's the big news: These pumps are in plentiful supply . . . available for immediate delivery from stocks in the Ingersoll-Rand branch warehouses across the country. Just call your nearest Ingersoll-Rand representative.

Beside quick shipment, you save in other ways with I-R Motorpumps for air conditioning. Thousands of installations prove that you can often use a small Ingersoll-Rand centrifugal Motorpump to recirculate the same amount of cooling water as an ordinary pump of higher hp! This means you save on first cost every time you install an I-R Motorpump. You save also on space and weight.

What's more, the I-R Motorpump is easy to install . . . easy to bolt in any position to floor, wall or other equipment. No special foundation is needed. You can recommend and install I-R Motorpumps and be sure of customer satisfaction.

Drop us a note today for your copy of "A Picture of The I-R Motorpump Line for Air Conditioning," Form 7177. Ingersoll-Rand Company, 11 Broadway, New York 4, New York.

MOTOR PUMP

...designed for Air Conditioning Service

AVAILABLE NOW FOR RUSH DELIVERY

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.

811-9

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STOP COIL BURN-OUTS!



**ALCO
SOLENOID
VALVES**

are protected from moisture

You can safely install Alco Solenoid Valves in low temperature and high humidity rooms without worrying that moisture may cause coil failure.

The coils are impregnated with a special varnish that makes them moisture and corrosion resistant.

As a test, Alco Solenoids have been continuously operated under water for 18 months without breakdown!

Alco Solenoid Valves are tight seating, packless and quiet. You and your customers will like them.

Complete information on applications is given in our Bulletin 173. May we send you a copy?

SEE YOUR ALCO WHOLESALER



Designers and Manufacturers
of Thermostatic Expansion
Valves; Evaporator Pressure
Regulators; Solenoid Valves;
5299 Float Valves; Float Switches.

ALCO VALVE CO.

843 KINGSLAND AVE. • ST. LOUIS 5, MO.

Circle No. 2 on Reader Service Card for more information

and **AIR CONDITIONING** • SEPTEMBER, 1952

SEPTEMBER, 1952

VOLUME 9, No. 9

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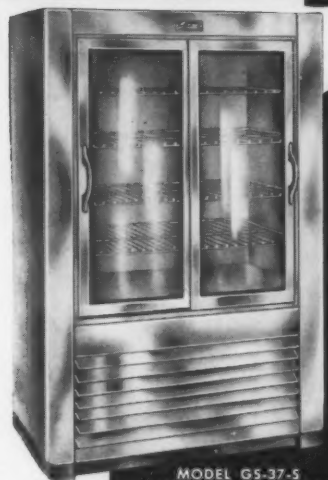
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SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

Glenco

All-metal welded Refrigerators are Leading the Industry . . .



MODEL GS-37-S
DISPLAY REFRIGERATOR
Capacity—37 Cu. Ft.

with
15 Styles...
Hundreds
of Selling
Features...



MODEL GD-47-R
DOUGH RETARDER
Capacity—47 Cu. Ft.



MODEL GR-65-S
REACH-IN
Capacity—65 Cu. Ft.

- A complete line that has
been acclaimed by users
from coast-to-coast.
- ★ Modern ceiling blower
coil provides 10%
more storage space.
 - ★★ All metal welded
construction.
 - ★★★ Hermetically
sealed con-
densing unit,
covered by 5 year
warranty.

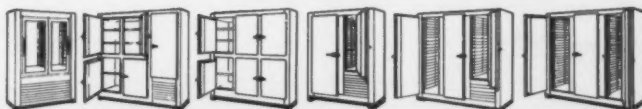


22 Cu. Ft. 27 Cu. Ft.



35 Cu. Ft. 42 Cu. Ft. 47 Cu. Ft. 70 Cu. Ft.

THE GLENCO REFRIGERATION CORPORATION, has, by special arrangement with THE STAR METAL MFG. CO., INC., designed and mass-produced a new, complete line of all-metal, welded refrigerators, with lustrous stainless steel fronts, and natural aluminum finished ends and interiors. The GLENCO CORPORATION offers the industry quality refrigeration at new low prices. WRITE FOR CATALOG G-1 TODAY!



37 Cu. Ft. 45 Cu. Ft. 50 Cu. Ft. 42 Cu. Ft. 65 Cu. Ft. 70 Cu. Ft.

GLENCO REFRIGERATION CORP.

JANNEY and ANN STREETS, PHILA. 34, PA., U. S. A.

**FASTER, BETTER, EASIER
CLEANING OF
REFRIGERANT LINES & COILS
...at lower costs..**

**WITH AN
ANSUL
DRI-SOL
GUN**

**...AND
ANSUL DRI-SOL
CLEANING SOLVENT**

NOW . . . A break for the refrigeration service engineer.

With an Ansul Dri-Sol Gun and Ansul Dri-Sol Solvent, you can clean refrigerant lines and coils **FASTER, BETTER, EASIER . . . and at lower costs.**

Here's all you do: 1. Attach the Dri-Sol Gun, filled with Dri-Sol Solvent, to the expansion valve inlet of the coil. 2. Pressurize the gun by pulling lever down (this releases CO₂ from the replaceable cartridge inside the gun). 3. Open discharge valve to release pressurized solvent into the coil.

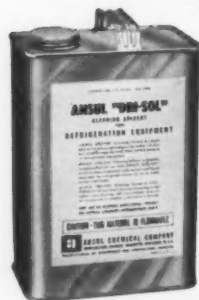
The Ansul Dri-Sol Gun is designed specifically to force the cleaning solvent through refrigerant lines and coils under high pressure. It holds three pints of Solvent. It is equipped with a packless angle valve and a 3/8 in. male flare outlet for direct connection to the coil at the expansion valve inlet. Pressure is provided from a replaceable carbon dioxide cartridge inside the gun.

Ansul Dri-Sol Solvent dissolves wax, sludges, and decomposed refrigerant products under all conditions. It has a great affinity for water and quickly dries any refrigeration circuit through which it is forced. It may be used more than once but with decreasing efficiency as it becomes saturated with foreign materials and moisture. It is non-toxic and safe to use in enclosed areas.

For more complete information on the Ansul Dri-Sol Gun and Dri-Sol Solvent ask your local Ansul Refrigeration Wholesaler. He'll be glad to give you all the details.



MANUFACTURERS OF REFRIGERANTS, REFRIGERATION PRODUCTS,
DRY CHEMICAL FIRE EXTINGUISHERS, INDUSTRIAL CHEMICALS.
—DISTRIBUTORS OF KINETIC "FREON" REFRIGERANTS



Ansul Dri-Sol Solvent is supplied in one gallon steel containers. It is safe to use . . .



The Ansul Dri-Sol Gun is shipped complete with one replaceable pressure cartridge. Just fill with solvent and the gun is ready for use.



ANSUL
Chemical Company

REFRIGERATION DIVISION • MARINETTE, WISCONSIN

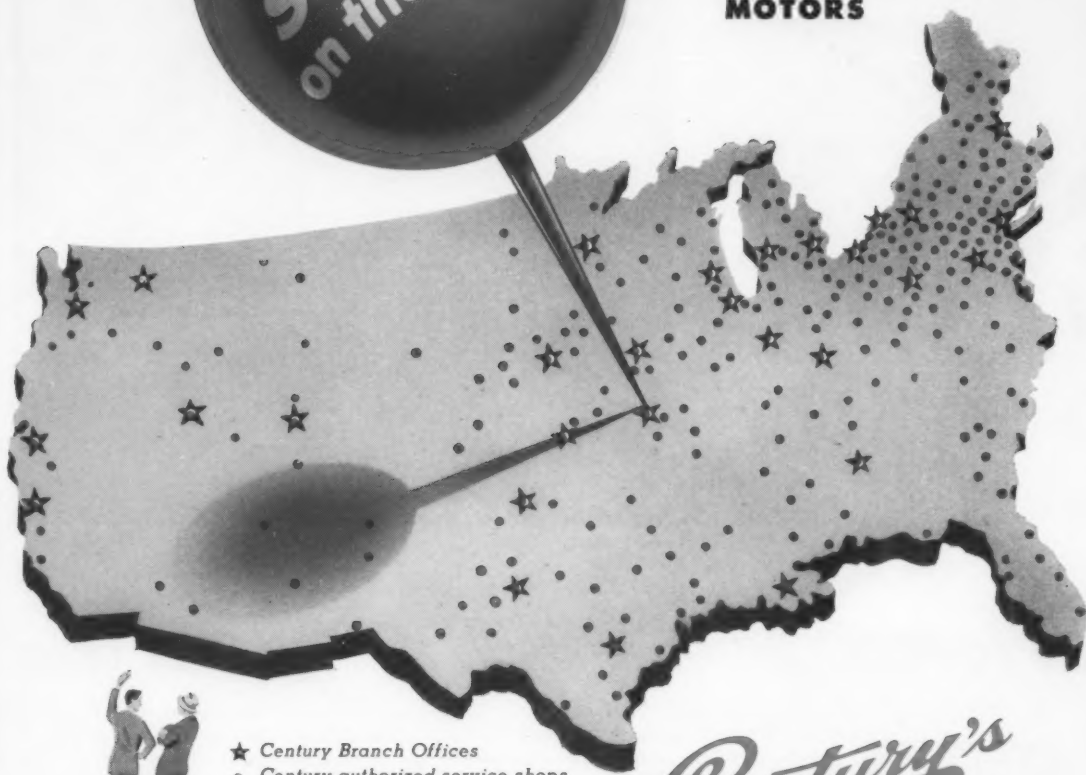
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SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

**SKILLED
SERVICE
on the SPOT!**

**TO HELP YOU
SELL MORE**

**Century
MOTORS**



- ★ Century Branch Offices
- Century authorized service shops

Century's

NATION-WIDE
AUTHORIZED
SERVICE
ORGANIZATION

There's no costly delay or confusion, should a Century Motor ever need service. A glance at this map will show you why.

Hundreds of trained electric motor repair men in established independent service organizations are located convenient to motor users throughout the United States. They are equipped to give Century Motors the same kind of skilled care that is used in their manufacture.

They carry a stock of Century Motor parts, and also some standard motors to be used as replacements. These authorized Century service shops are authorized to render immediate decisions regarding warranty service on Century apparatus. Your customers will appreciate this reliable service organization.

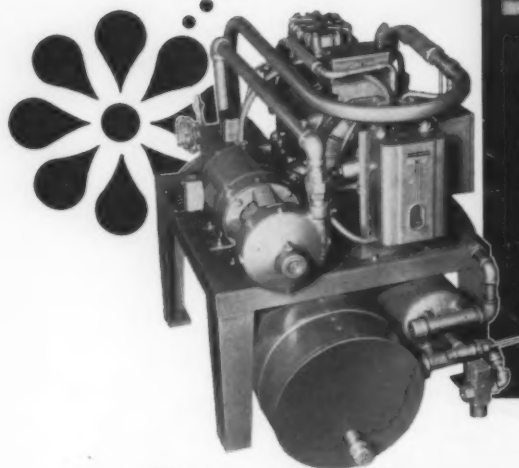
For a list of service stations—or for more information on your opportunities for success with Century Motors, write us today.



CENTURY ELECTRIC COMPANY • 1806 Pine Street, St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

Circle No. 5 on Reader Service Card for more information
and **AIR CONDITIONING • SEPTEMBER, 1952**

increase honing
efficiency
and profits



with **Acme** **FLOW-COLD**[®] Packaged Liquid Chiller

PROBLEM

THE REO MOTOR COMPANY in Lansing, Michigan had two honing machines that were not operating at peak efficiency because the oil used in the coolant process picked up large amounts of heat during the honing operation. The result was low production and a large number of rejects. Extremely limited space made the installation of the usual industrial chilling unit impossible.

PLAN

Acme engineers recommended the installation of a 15-horsepower Flow-Cold Liquid Chiller. This unit with a cooling capacity of 40 gallons per minute in reducing the coolant used from 90 to 70 degrees, met minimum space requirements. Mounting the pump of the chiller on the floor and the liquid chiller overhead allowed the pumps of the honing machine to remain in the same position where they could continue to service the machine when the chilling unit was shut down.

PROFITS

An immediate increase in production capacity and a decrease in the number of rejects was evidenced as the heat was dissipated during the chilling process and the coolant returned to the honing machines at a constant temperature. The compact packaged Flow-Cold serviced the two honing machines with maximum efficiency and performance.

Since this installation was made Reo has added two more Flow-Cold "packaged" units — one for a broaching machine and the other for a quench-bath cooling process.



ACME INDUSTRIES, INC., JACKSON, MICHIGAN, U.S.A.
Flow Cold Division

CONTINUOUSLY SERVING THE AIR CONDITIONING AND REFRIGERATION INDUSTRIES SINCE 1919

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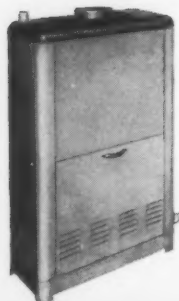
SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

WHEN YOU MUST HAVE

Strong
Leak-tight
Ductile

JOINTS

...brazed with EASY-FLO

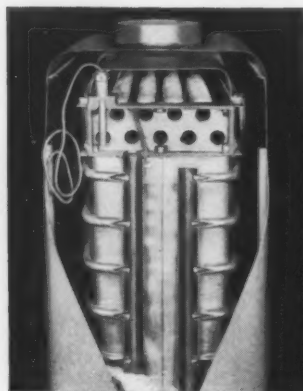


* This low-temperature silver brazing alloy just naturally and consistently makes joints that have all three of these properties—and does it fast and at surprisingly low-cost. That's why you'll find so many manufacturers in the heating, air conditioning and refrigerating industries brazing with EASY-FLO. The well-known RUUD water heater is a typical example. Here's the *inside* story.

Copper finned tubes and bronze headers are assembled in jigs with 1/16" EASY-FLO 45 wire rings at each joint — then brazed by dipping in hot salt bath as you see below.

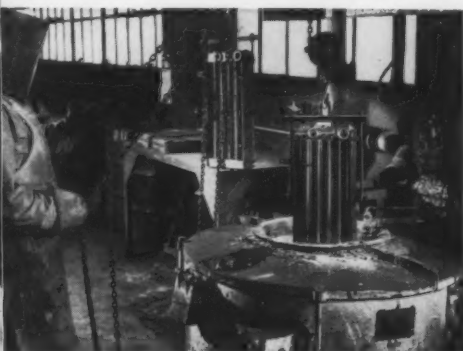


Copper tubes are first brazed to large copper tube manifolds (above) — and then jugged and brazed to copper jacket. 3/32" EASY-FLO 35 wire does these jobs using torch heating—time, jugging included, 10 minutes. The same basic construction is used in RUUD house heating boilers.



AT YOUR CALL

Expert aid in applying EASY-FLO brazing to your metal joining. No obligation. Ask for a Field Engineer.



GET THE WHOLE EASY-FLO BRAZING STORY

BULLETIN 20 tells you in detail what EASY-FLO is, what it does, and how to put it to work—plus valuable information on joint design and fast brazing production methods. Write for a copy today.



HANDY & HARMAN

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and AIR CONDITIONING • SEPTEMBER, 1952



Mills Compressor Units
equipped with Allen-
Bradley Bulletin 709
Automatic Starters.



MILLS COMPRESSOR UNITS equipped with **ALLEN-BRADLEY** **TROUBLE FREE MOTOR CONTROLS**

Why are Allen-Bradley starters so popular for refrigeration and air conditioning service? . . . because they are trouble free. Only ONE moving part. No pivots, pins, or bearings to corrode or stick . . . no jumpers to break. You install them . . . and forget them!

No contact maintenance . . . Allen-Bradley silver alloy contacts never need cleaning, filing, or dressing.

Dependable overload relays . . . Allen-Bradley thermal relays are accurate and always dependable . . . even after long service.

Allen-Bradley Co., 1340 S. Second St., Milwaukee 4, Wis.

Write for this **NEW Allen-Bradley Air Conditioning and Refrigeration Bulletin**



ALLEN-BRADLEY SOLENOID MOTOR CONTROLS

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SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

*To Save You Time and
Money on the Job...*



SOLENOID VALVES

*Provide Complete Interchangeability
of Coil Assembly...*

- ONE Coil
- ONE Coil Sleeve
- ONE Coil Plate
- ONE Housing
- ONE Plunger

... fits every J-E Solenoid Valve, from 3 tons to 400 tons of refrigeration. Think of all the confusion and delay this will save you!



ALL JE Solenoid Valves Have These 5 Major Features of Dependability

- TIGHT SEATING — NO BUBBLE TOLERANCE
- SIMPLICITY — ONLY TWO MOVING PARTS
- LONG LIFE — COOL COILS
- DURABILITY — ALL CORROSION-RESISTANT MATERIAL
- OPENING PRESSURE DIFFERENTIAL — HIGHER THAN MOST OTHERS ON THE MARKET.

May we submit samples for your test and approval? Write today for details.

JACKES-EVANS MANUFACTURING COMPANY

CONTROLS DIVISION

4427 GERALDINE AVE. • ST. LOUIS 15, MO.

PATENT PENDING



Type 2P3



Type 3MS



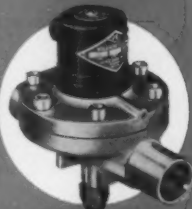
Type 4MP



Type 6MS

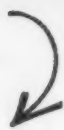


Type 6MF



Type 12MS

Your Sign of Sure Sales!



LOF

**SIGN OF
SELF-SERVICE
THAT SELLS!**

Thermopane
INSULATING PLATE GLASS UNIT
LIBBEY · OWENS · FORD GLASS CO.

If you want your self-service cases to really sell, look for Thermopane® insulating glass in the next refrigerated case you buy. You'll find the word *Thermopane* imprinted on the seal between the panes. Thermopane insulating glass means a clear, clean view of your frozen foods. Here's why: Thermopane alone has the famous *Bondermetic Seal*® which prevents moisture and dirt from getting between the panes. This seal is metal-co-glass...no organic material that can deteriorate and leak.

So look for the seal and the word *Thermopane*—you'll get better self-service. signed, sealed and delivered.
LIBBEY · OWENS · FORD GLASS COMPANY
2992 Nicholas Building, Toledo 3, Ohio

Thermopane LOOK FOR THE NAME ON THE SEAL BETWEEN THE PANES FOR BETTER VISION SPECIFY THERMOPANE MADE WITH POLISHED PLATE GLASS

See Forces at Glass
Batteries of Dry Air
provide moisture
Bondermetic Seal
The glass seal keeps
air dry and clean

This is what

your prospects will read in:

Chain Store Age Sept.
Quick Frozen Foods Sept.
National Grocers Bulletin. Sept.
Food Topics Sept. 15
Super Market Merchandising Oct.
Progressive Grocer Oct.
Meat Merchandising Oct.

WHEN YOUR PROSPECTS look over your refrigerated cases, point out the word *Thermopane*® name on the famous *Bondermetic Seal*® in the visual front. They've read about it. It will help you demonstrate that your cases are the best.

If you'd like to give them reprints of advertisements like the one shown above, let us know. Write Libbey-Owens-Ford Glass Company, 2992 Nicholas Building, Toledo 3, Ohio.

®

SPORLAN Now Offers You PEAK PERFORMANCE on ALL FLOODED REFRIGERATION SYSTEMS

with the Sporlan LEVEL-MASTER control

A POSITIVE LIQUID LEVEL CONTROL
for AMMONIA, F-12 and F-22 with...

7 OUTSTANDING FEATURES

- 1. Modulated Flow.** The Level-Master Control provides a modulated flow and maintains practically a static liquid level in the low side.
- 2. No Moving Parts.** The insert bulb controlling the liquid level has no moving parts. Control does not operate through use of a mechanical float device of any kind.
- 3. Simplified and Economical Installation.** The insert bulb is placed directly in the shell, accumulator or liquid leg for direct contact with refrigerant. Existing hand and float control systems can be easily and economically modernized and made automatic with the Level-Master Control.
- 4. Not Affected by Turbulance.** Regardless of any turbulence which might occur in the low side, the effect on the Level-Master is merely that of striking a mean level and holding that level constant.
- 5. Tight Closing.** Tight closing is assured during the off cycle when the heater element is off and liquid is in contact with insert bulb.
- 6. No Current Flow Through Refrigerant.**
- 7. Employs Proven Thermostatic Expansion Valve Performance.** Not an electronic device.

The Level-Master Control is a standard Sporlan Thermostatic Expansion Valve equipped with the New Level-Master Element. The Level-Master Element consists of a conventional thermostatic power element, and a low wattage heater. The heater provides an artificial superheat to the thermostatic charge. As the liquid level drops, the heater temperature increases the pressure in the thermostatic element thereby opening the expansion valve. When the liquid level rises and makes contact with the bulb, the refrigerating effect overcomes the heater and the valve throttles.

Write Today For Copy of Bulletin 60-15

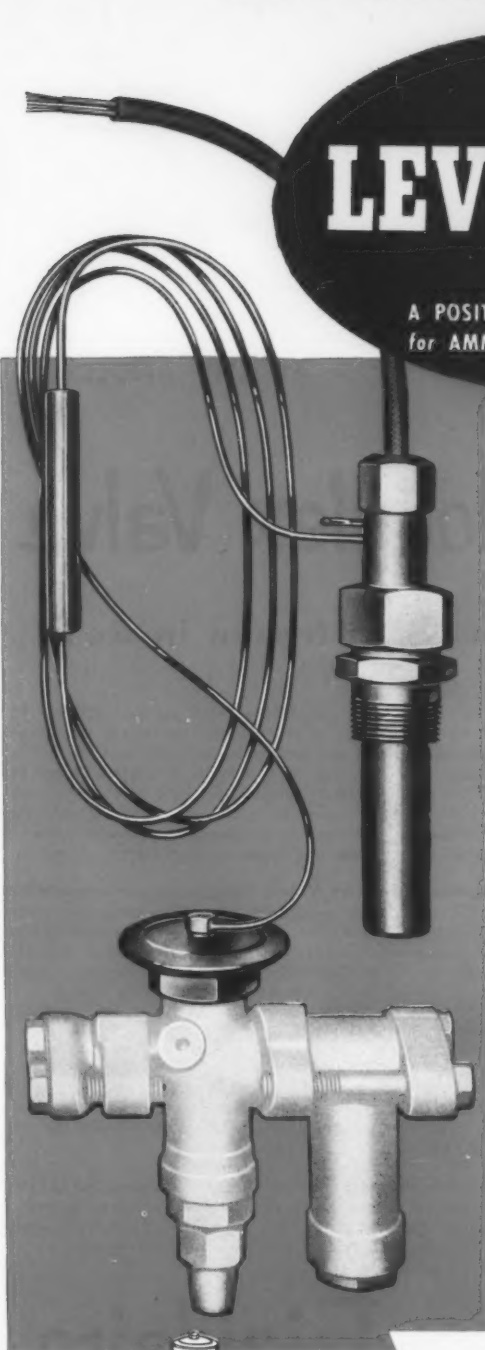
and see why You should use a Sporlan Level-Master Control for YOUR flooded refrigeration systems.

SPORLAN VALVE COMPANY

7525 SUSSEX AVE., ST. LOUIS 17, MO.

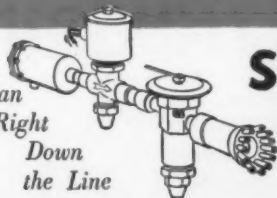
EXPORT DEPARTMENT . . . 89 BROAD ST., NEW YORK 4, NEW YORK

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Buy
Sporlan

Right
Down
the Line





UPSIDE DOWN



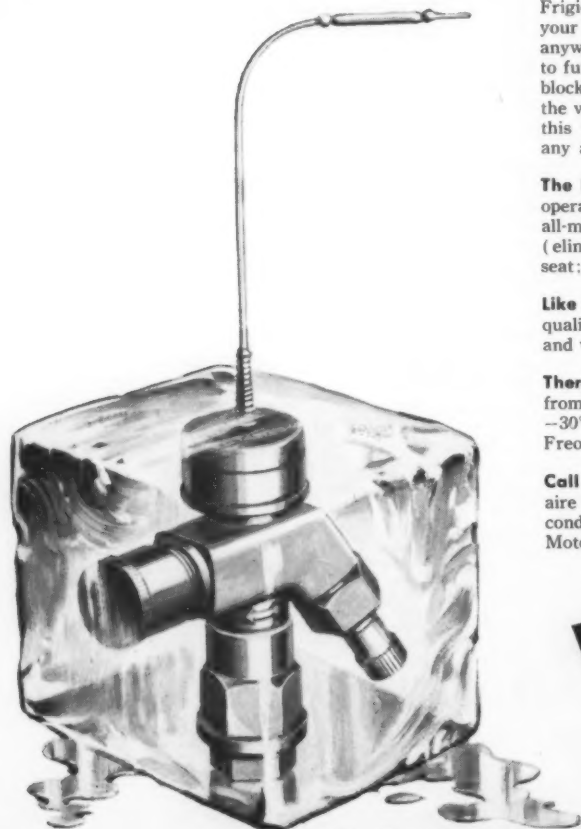
SIDEWAYS



AT ANY ANGLE

The Frigidaire Modulex Valve

can operate efficiently even when frozen in ice!



Frigidaire's compact, sturdy Modulex refrigerant control valve is your answer for any new or replacement use. It can be installed anywhere—even in refrigerated space. Tests prove it will continue to function even when the valve body is completely frozen in a block of ice, or subjected to unusual heat. The bulb alone controls the valve completely, regardless of where the valve is used. And, this valve can be installed in any position—upside down—at any angle—without affecting its constant, accurate operation.

The Frigidaire Modulex Valve features include single-bellows operation—(fewer moving parts mean trouble-free performance); all-metal, moisture-proof construction; self-locking adjusting screw (eliminates frequent readjustment) replaceable needle and valve seat; easily removable filter and self-aligning, stainless steel needle.

Like all Frigidaire Valves—Modulex Valves are made of highest quality material, accurately calibrated and tested at the factory, and warranted for one year.

There's a Frigidaire Modulex Valve for every need—capacities from 3,000 to 48,000 BTU/Hr. Temperatures (at valve outlet) from -30° to $+50^{\circ}$ F. Seventeen models available. Types for SO-2 Freon 12—Freon 22—Methyl Chloride.

Call your Frigidaire Distributor. He has a complete line of Frigidaire refrigerant valves for every household, commercial and air conditioning application. Or write Frigidaire Division of General Motors, Dayton 1, Ohio. In Canada, Toronto 13, Ontario.

 **Frigidaire**

**Always specify, always use genuine
Frigidaire-made parts.
One-year parts warranty.**

GOT A CHILLING PROBLEM?



CHEMICALS
✓ **FOODS**
✓ **MILK**
✓ **WATER**
✓ **OIL**
✓ **PAPER**
✓ **RUBBER**
✓ **ETC.**

Here's the dependable answer for many of your customers who are faced with liquid chilling problems! The new Brunner Liquid Chiller combines the famous slow-speed Brunner Refrigeration Compressors with the most modern and efficient liquid cooling cabinets ever developed. Interior of cabinet is entirely lined with copper, stainless steel optional, with copper plates and refrigerant lines to assure long, corrosion-free service. Exclusive mixing chamber pre-cools liquid before passing it back and forth over the chiller plates.

Liquids may be chilled by passing through the cabinet itself — or by secondary circulation of chilled water piped from the unit. An ice builder as well as a chiller, unit stores up ice deposits for use during peak load periods — delivers ample cooling capacity with a minimum of connected horsepower. Models from ¼ HP up to 7½ HP completely assembled at factory. Larger models come in two sections, (1) chiller unit, (2) refrigeration unit, however, these are matched units and easily connected on location. Ask your Brunner Representative — or write us for details . . .

Lower Operating Cost—builds ice deposit for use during peak load requirements.

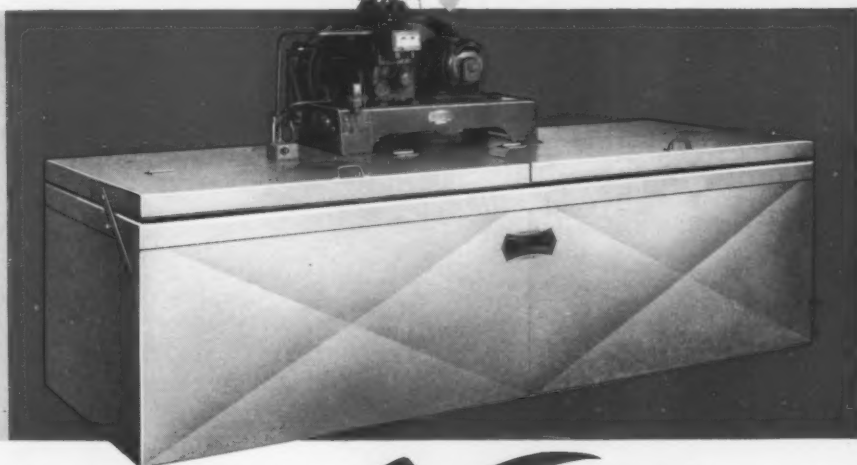
Heavy Duty Construction—welded steel frame, 16 gauge galvanized steel cabinet with 4" cork insulation. Easily installed and serviced.

Plates Individually Refrigerated—give 100% refrigeration. Front and back wall of cabinet refrigerated.

Exclusive Mixing Chamber—permits compressor to operate under maximum load at all times—maximum capacity at minimum cost.

All Parts Readily Available...for dependable service with minimum interruption.

Full Year's Warranty on entire unit. Optional Five Year Protection Plan available on Brunner Refrigeration Compressor.



MAIL COUPON TODAY for full details and name of nearest Brunner Representative.

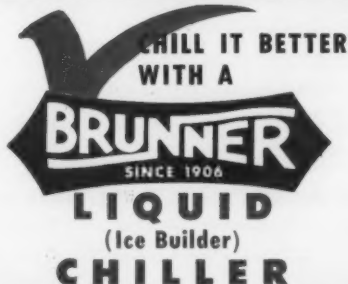
Brunner Manufacturing Company
Dept. G-9, Utica, N. Y.

Send me data on your new Liquid (Ice Builder) Chiller and name of nearest Representative.

Name

Address

City..... State.....

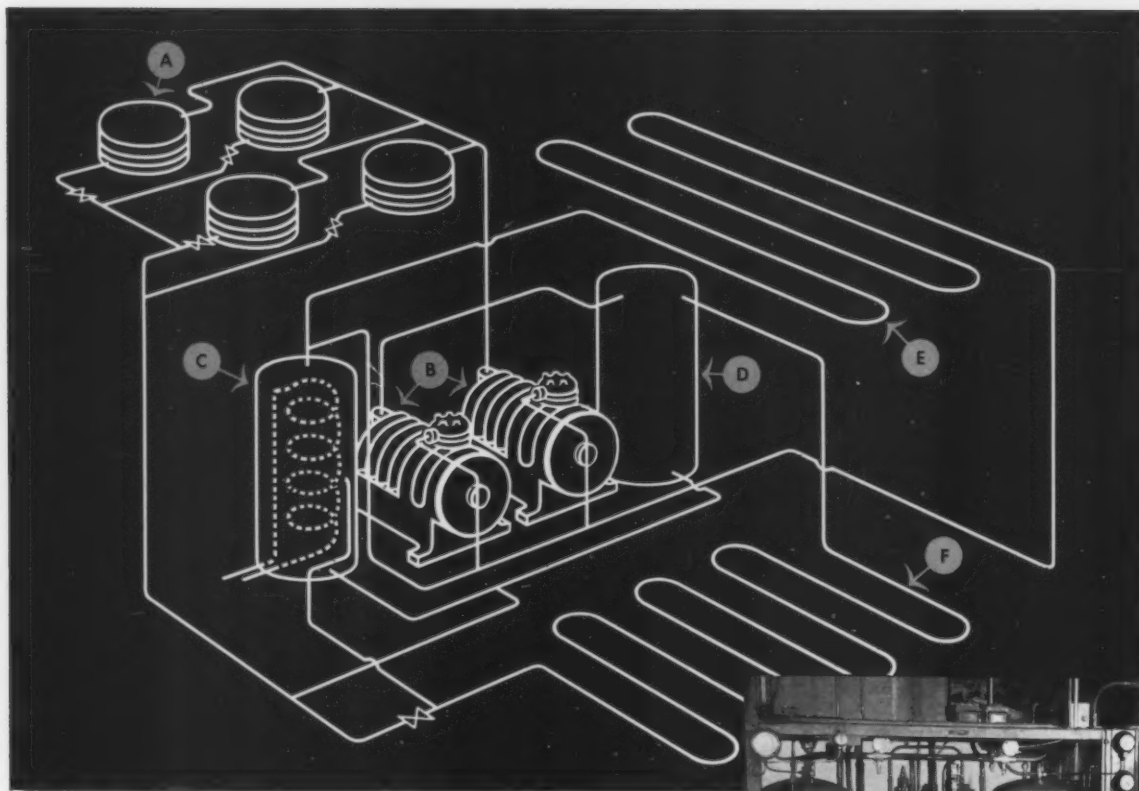


BRUNNER MANUFACTURING CO., UTICA, N. Y., U.S.A.

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and **AIR CONDITIONING • SEPTEMBER, 1952**

How ANACONDA copper "HEAT PUMP"



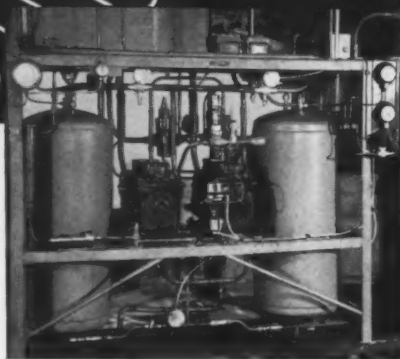
HOW IT WORKS — Heat pump system in sausage plant removes heat from sausage with forced-air refrigerating convectors (a). Compressors (b) use Freon-12 refrigerant. 80-gallon heat exchanger tank (c) warms domestic water running through 300 feet of copper tubing. Surge tank (d) takes care of vapor or liquid refrigerant. 500 feet of copper tubing in office floors (e) provides radiant heat, and 1800 feet in basement floor (f) dissipates heat in summer, stores it for radiant heating on nights, weekends.

ANACONDA Products for the Refrigeration Industry

Copper Tubing
Restrictor Tube
Bourdon Tube
Thermal Expansion Bulbs

Hard Copper Tube
cut to length
Copper Water Tube
in coils
or straight lengths

Formed Tube Parts
Fittings
Vibration Eliminators
Flexible Metal Conduit



HEAT PUMP HEART — All mechanical equipment is assembled as a packaged unit. Two 3-hp. compressors, plus automatic controls, are located between heat exchanger (left) and surge tank (right). Charles Charlton, Hartford, Conn., Designer.

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SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

contribute to

Success story

When both heating and cooling sides of a refrigeration system are put to work, it's a true heat pump *with important operating economies*. Here's an interesting example of such double duty. In the Hartford, Connecticut sausage plant of Mucke & Sons, process heat warms offices. ANACONDA Copper Tubing plays an essential part. Its excellent heat-transfer properties, corrosion resistance, and consistent uniformity make for high efficiency.

Primarily this system was designed to cool cooked sausage. However, it was apparent that *three* jobs could be done by the "heat" side. Designer Charles Charlton used heat removed from the sausage (1) to heat offices, (2) to provide washroom hot water, (3) as a reserve, stored underground, for use when sausage processing is not in operation.

Nothing succeeds like success. Results have been so encouraging that Mucke & Sons are thinking of expanding the system to make further use of the heat.

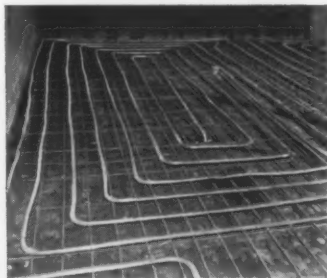
If this installation interests you, we will gladly forward a complete description on request.

On your jobs—ANACONDA Copper Tubes and ANACONDA Refrigeration Products mean lower labor costs and high quality. The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario.

0311



HEAT REMOVED—Corner of the sausage cooling room shows two of the circular convectors in the ceiling. Temperature is kept at 40° F. Cooler is 25 ft. x 35 ft. with a cooling load of 60,000 Btu per hour.



HEAT USED—Shown here is part of the 500 feet of copper coil embedded in concrete slabs in the floor of adjacent plant offices and other areas. This tubing circulates the refrigerant gas to furnish radiant heat.



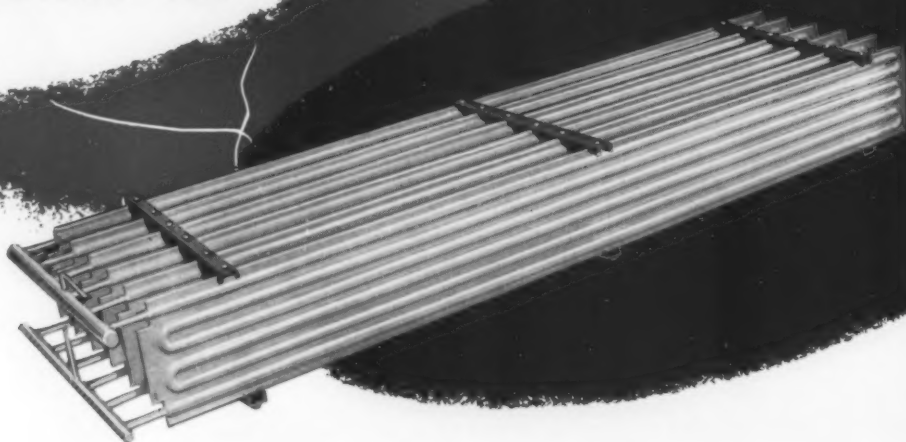
for consistent uniformity—ask for

refrigeration products

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and AIR CONDITIONING • SEPTEMBER, 1952

KOLD-HOLD

*plate banks absorb more
heat for a given
area . . . at lower cost*



The reason "Serpentine" Plate Banks cool large areas so quickly and economically is they have a much greater heat absorbing area within a given space. This is due to their patented "Serpentine" design which gives them the equivalent of 100% prime surface. The refrigerant flows through the plates in the channels formed by joining a flat metal sheet to an embossed metal sheet. Thus, the refrigerant is in direct contact with the surface and the entire surface of each plate is effective heat transfer area.

When a number of "Serpentine" Plates are joined

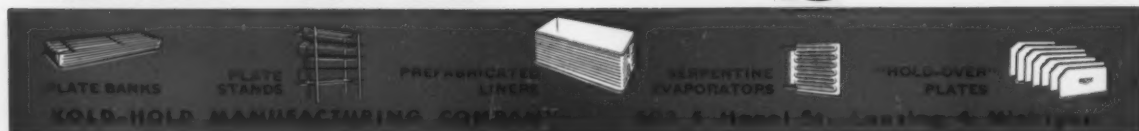
together, they provide the maximum in refrigeration in a compact bank unit.

You need no additional medium of heat exchange with Kold-Hold Plate Banks. There are no extras to buy. Simple fittings make possible easy installation almost anywhere by merely connecting to the main refrigerant line. As Plate Banks have no internal tubing or piping, their weight per square foot is extremely low and installation is simplified.

A detailed description of the advantages and uses of Plate Banks is found in the new Kold-Hold Catalog. Write today for your free copy.

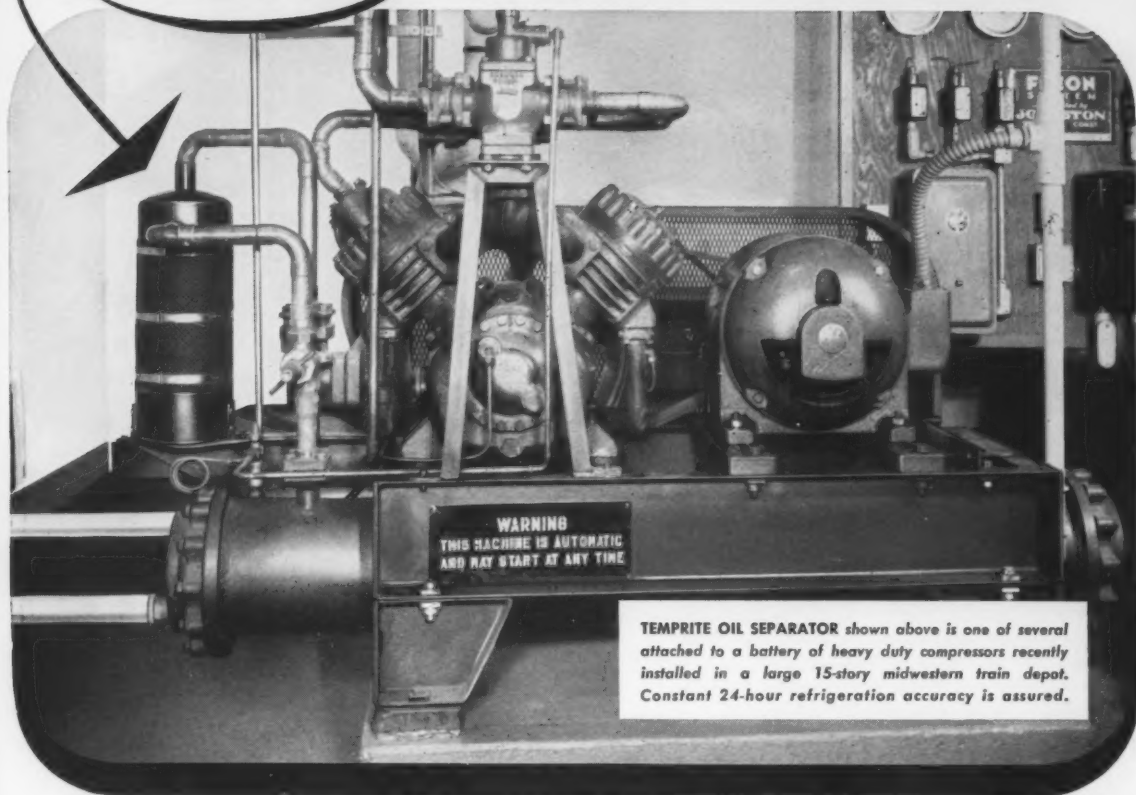
KOLD-HOLD

protects every step of the way



TEMPRITE SEPARATOR

CUTS SERVICE CALL-BACKS!



TEMPRITE OIL SEPARATOR shown above is one of several attached to a battery of heavy duty compressors recently installed in a large 15-story midwestern train depot. Constant 24-hour refrigeration accuracy is assured.

DID YOU KNOW that you can practically eliminate service call-backs on refrigeration installations with the simple attachment of a Temprite Oil Separator to the compressor?

This is your best insurance against loss of cooling efficiency . . . because the Temprite Separator keeps the compressor oil out of the condenser and evaporator walls. If the cooling job is BIG . . . or small . . . protect yourself and your customer. *Install a Temprite Separator!*



A Temprite Separator for capacities from 1/6 H.P. to 60 tons.



TEMPRITE PRODUCTS CORP. *"Be right with Temprite"*
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- ☐ Send name of your local distributor.
☐ Send me complete data on your oil separators

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and AIR CONDITIONING • SEPTEMBER, 1952



... and for the air conditioning, we'll insist on Honeywell!

You'd think cartoonist Tobey's famous couple would be discussing something else in a setting like this!

However, the *one* thing the above gentleman wants is *efficient* air conditioning operation! And he knows the best way to get it is to insist on famous Honeywell controls.

The plain fact is—there's no better guarantee of dependable, trouble-free operation than the Honey-

well name on automatic controls for air conditioning and refrigeration.

So make *your* first choice Honeywell Controls—the first choice of architects, builders and consumers. For full information—or an 8½" x 9" personalized reproduction of this Tobey cartoon—write today to Honeywell, Dept. CR-9-40, Minneapolis 8, Minnesota. In Canada, Toronto 17, Ontario.

MINNEAPOLIS
Honeywell



First in Controls

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Your **GILT-EDGED** **SALES** Opportunity



New - 5-YEAR WARRANTY

For ALL *Curtis* Packaged Air Conditioners

Now, every Curtis Packaged Air Conditioning unit sold through franchised distributors is covered by a new, 5-year factory warranty. This includes 2, 3, 5, 7½, 10 and 15-H.P. sizes. Find out more about your profit possibilities with Curtis. Use the coupon

CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company

1915 Kienlen Avenue • St. Louis 20, Missouri

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and AIR CONDITIONING • SEPTEMBER, 1952

CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company

1915 Kienlen Avenue, St. Louis 20, Missouri

I am interested in direct factory franchise. Send complete details.

Company Name.....

Street.....

City.....Zone.....State.....

Signed.....

A Big Hit!

CHASE EXTRA SOFT COPPER REFRIGERATOR SERVICE TUBE

Chase Extra Soft Copper Refrigerator Service Tube helps you do a quicker, better job. It's easy to bend because it's uniform in temper. And the Chase crimped end-seal that locks out all dirt and moisture need not be removed until connections are being made.

You'll like the package it comes in, too! It's easy to store . . . plenty strong for tube protection . . . easy to ship . . . and easy to identify.

Chase Extra Soft Copper Refrigerator Service Tube is available in 50' coils in sizes $\frac{1}{8}$ " through $\frac{3}{4}$ ". Use it with Chase Wrought Copper Solder-Joint Fittings for permanently tight joints that have no inside ridges.

Send coupon for free book on Chase Copper Refrigerator Tube.

Chase  **BRASS & COPPER**

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Chase Brass & Copper Co., Dept. CR 952
Waterbury 20, Conn.

Please send me your Free Book on Chase Copper Refrigerator Tube.

NAME _____

POSITION _____

FIRM _____

ADDRESS _____

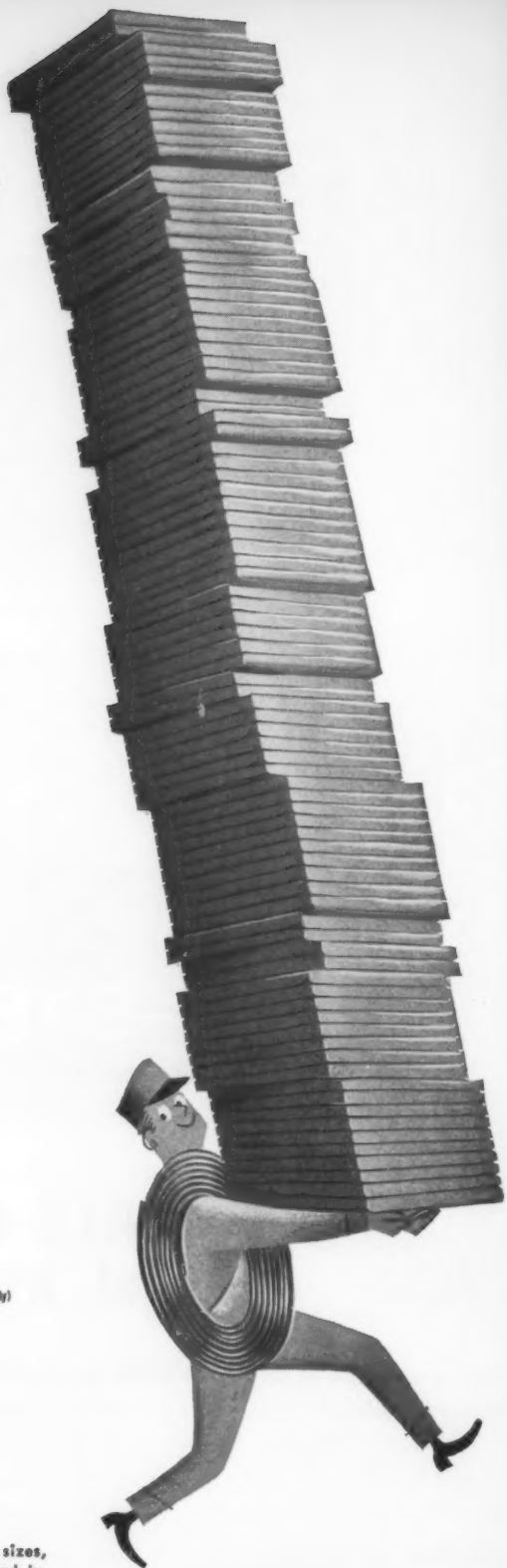
CITY _____ STATE _____



FREE Book gives sizes, weights, packages and installation details on Chase Copper Refrigerator Tube.

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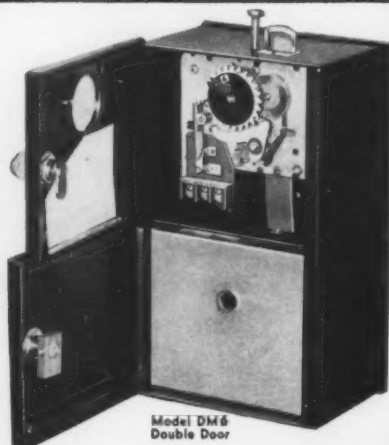
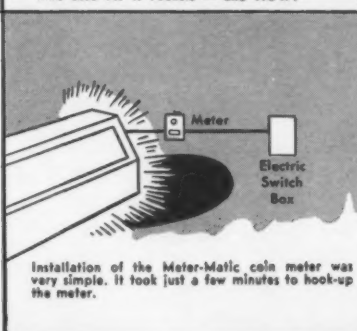
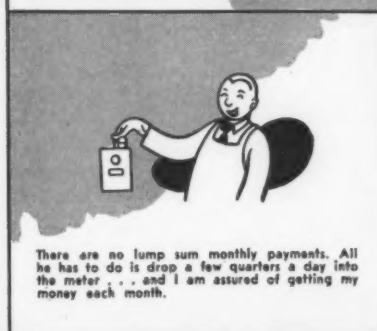
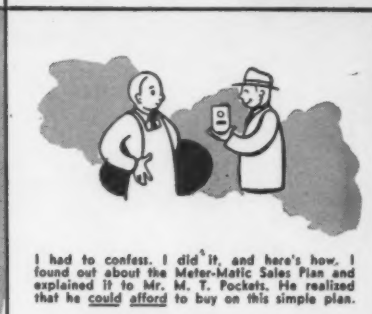
SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION



WHO SOLD THE REFRIGERATION?

A gripping tale of suspense
... and profits ... as told by

METE R. MATIC



METER-MATIC METERS ARE —

- Accurate and Dependable.
- Low in Price.
- Fully Guaranteed.

The moral of the story is:

If you want to sell more refrigeration, sell on the

METER-MATIC

SALES PLAN

Customer deposits quarters daily. If he doesn't . . . the meter will stop the flow of current to his refrigeration unit.



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THE
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INTERNATIONAL REGISTER COMPANY

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Send me Meter-Matic Sales Kit No. 92-M Be sure to include a copy of the "1952 Survey" giving vital statistics on the use of the meter plan by other dealers.

Company _____
My Name _____
Address _____
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Expansion Program of Proves Steady Demand for



Air view and an entrance of the mammoth Hoffmann-La Roche pharmaceutical plant in Nutley, New Jersey.

Another good example of today's steadily growing need for air conditioning and refrigeration equipment in industry is well illustrated by the continuing expansion program of Hoffmann-La Roche, Inc. The huge 100-acre plant of one of the world's largest manufacturers of pharmaceutical products is located in Nutley, N. J.

COMPLETE, INDIVIDUAL SYSTEMS

Throughout the company's fifty buildings there are many unique installations of air conditioning and refrigeration

equipment. Refrigeration is widely used in scores of the company's manufacturing processes . . . for storage of a great many products . . . and for extensive laboratory research work. Some 75 individual, fully automatic refrigeration systems made up of standard equipment are in operation on a non-stop basis.

In a typical setup, "Freon-12" refrigerated brine (calcium chloride) is pumped around a loop system serving a specific processing operation. Varied conditions of temperature and humidity are maintained for large-scale

Pharmaceutical Firm Refrigeration Equipment

production of vitamins, special drugs, and a long list of pharmaceuticals.

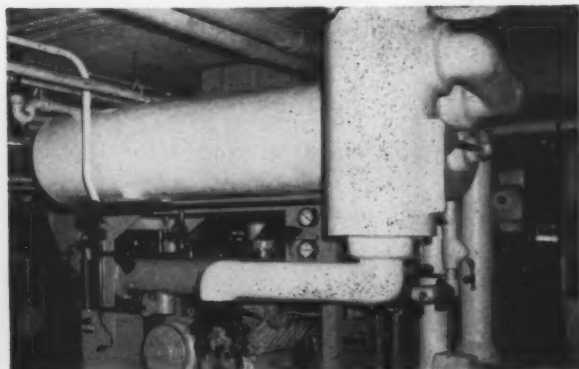
In a building nearing completion, another installation, for example, consists of a system including four 40-hp Schnacke compressors cooling brine to 10°F. on a separate circuit. Over 60 similar systems, using 4- and 8-cylinder compressors have been installed for accurately controlling the many different processing temperatures demanded.

Some of these processes require double and triple staging of "Freon-22" to obtain as low as -150°F., with these compressors operating continuously 24 hours a day, every day. Additional systems include machines manufactured by other leading equipment manufacturers, and the total tonnage throughout the plant exceeds several thousand.

NEW INSTALLATIONS CONTINUE

The air conditioning and refrigeration systems in the Hoffmann-La Roche plant have been installed over a period of years dating from the early 1930's, when the company first built in this location. The program is a continuing one designed to meet new needs as they arise.

In speaking of the various installations, J. W. Obreiter, resident consulting engineer, explained that: "Maximum flexibility of the systems is highly desirable. Their automatic operation also helps eliminate or reduce maintenance costs. The recognized safety features of 'Freon' refrigerants," he added, "have influenced the selection of 'Freon'-operated equipment to replace older, ammonia-charged machines."



Single Schnacke compressor with brine cooler, slug eliminator, and suction line...an installation of The Patterson-Kelley Co., Inc., of East Stroudsburg, Pa.

MAKE A STUDY OF YOUR OWN MARKET POTENTIAL

Today, practically every industry employs air conditioning and/or refrigeration in one way or another. As in pharmaceutical manufacture, many industries actually depend on these modern improvements for their existence. Others have found that as production has stepped up, costs have been lowered, and employee morale improved as a result of air conditioning. Many benefits stem from such improvements and management is generally willing and anxious to give them serious consideration.

Why not list the manufacturing plants in your market area? Right now, many may be excellent prospects for new or additional air conditioning and refrigeration equipment.

Plan a selling campaign. Show them how air conditioning and/or refrigeration helps boost profits . . . increase production . . . improve working conditions. And when you review the merits of different types of equipment, explain the importance of selecting machines charged with "Freon" refrigerants. Remind prospects that these refrigerants are safe . . . nonflammable, non-explosive, odorless, virtually nontoxic and that they insure dependable, economical, trouble-free performance of the system over a long period of time. In addition, "Freon" safe refrigerants meet *all* building-code requirements. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.



REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

150th Anniversary



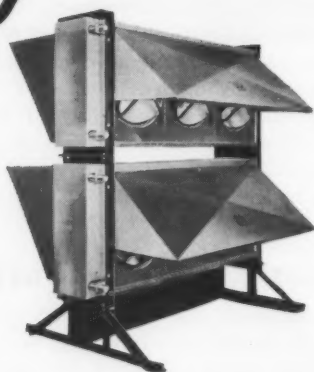
"FREON" SAFE REFRIGERANTS

"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants



using water!

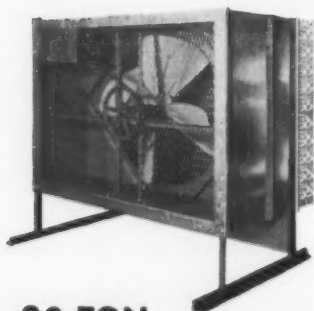
Eliminate all water problems with
UNICON by KRAMER. Any size
compressor, regardless of tonnage,
can be air-cooled with UNICON.



15 TON

UNICON *

by **KRAMER**



20 TON

Stands, hoods, and wind deflectors
are available for simplified
outside mounting
You need nothing else!

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KRAMER TRENTON CO. • Trenton 5, N.J.



easy
to
work



low
thermal
conductivity

STYROFOAM



water
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the most nearly perfect **low temperature insulating material** yet developed

for meat packing plants, locker plants, walk-ins, dairies, ice cream plants, cold storage warehouses, fruit and beverage storage spaces
for refrigerated household appliances • for refrigerated equipment • for refrigerated railroad cars, trucks, trailers, ships

Styrofoam®, a lightweight plastic made by expanding polystyrene approximately 40 times, has many desirable low temperature insulation characteristics. In fact, laboratory tests have shown that Styrofoam is the most nearly perfect low temperature insulating material yet developed. It has a high resistance to water vapor, main-

taining "just installed" insulating efficiency for years. Styrofoam has a low thermal conductivity, is odorless and non-toxic. It resists mold and rot. This strong, yet lightest of all rigid type insulation materials is available in board form which is easily cut to desired size with conventional hand or power woodworking tools.

Architects, engineers, and refrigeration and insulation contractors are finding that Styrofoam delivers effective insulation in low-temperature installations, at extremely low cost per year of service life.

(Styrofoam Pipe Covering is available from several fabricators.)

THE DOW CHEMICAL COMPANY • **Plastics Department—PL 418-1** • MIDLAND, MICHIGAN
New York • Boston • Philadelphia • Atlanta • Cleveland • Detroit • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle • Dow Chemical of Canada, Limited, Toronto, Canada

---write today!--



The Dow Chemical Company
Plastics Department, PL 418-1, Midland, Michigan
Please send me your booklet containing information on Styrofoam,
low temperature insulation material.

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Company _____
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City _____ State _____



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Wagner
ELECTRIC MOTORS
...the choice of leaders
in industry

This magnetic part-winding increment starter can be furnished in combination with open-type, splash-proof, explosion-proof, or totally-enclosed fan-cooled motors—normal or high torque.



Wagner
Increment Motor
and Starter "Package"

Here's the combination that meets locked current restrictions

The Wagner part-winding increment motor and starter combination provides an economical method of starting polyphase squirrel-cage motors in any application where reduced current draw at start is required or desirable. No auto-transformers or resistors are necessary.

Wagner polyphase motors for part-winding starting, both normal and high torque, are wound with two circuits in parallel. The magnetic type increment starter has two magnetic contactors. When the first contactor closes, the line is connected to one group of the motor windings and a pneumatic timer

is started. After the desired time interval, the pneumatic timer closes the second magnetic contactor which connects the line to the other part of the motor winding. Using this motor and starter combination, the current drawn from the line is about 60 percent of the normal locked current of the motor. It has the advantage that the current taken from the line is not broken during the starting period, as is the case when auto-transformers or compensator-type starters are used.

Motors with manual type increment starters are also available.

Wagner
Electric Corporation

EST. 1891

WAGNER ELECTRIC CORPORATION

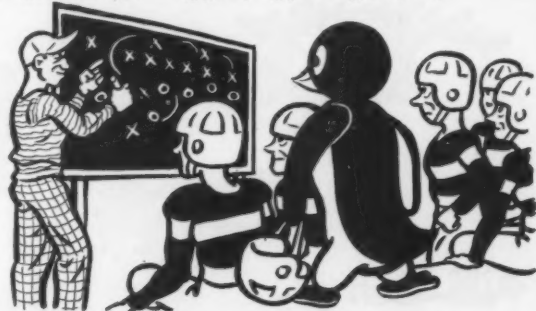
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AUTOMOTIVE BRAKE SYSTEMS — AIR AND HYDRAULIC

BRANCHES IN 32 PRINCIPAL CITIES



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Learning your customers' needs is half the battle. And with the **COMMERCIAL CREDIT PLAN**, you're offering "brand name financing" millions of time buyers prefer.



Scoring is easy! With **COMMERCIAL CREDIT PLAN** you offer *immediate use*, *reasonable rates* and *2 to 3 yrs. to pay*, sales resistance is less . . . closing sales is easier.



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WRITE, WIRE OR PHONE your nearest **COMMERCIAL CREDIT** office for complete information and facts on how many Distributors and Dealers are successfully using our **PLAN**. Phone the **COMMERCIAL CREDIT** office in your city or write or wire **COMMERCIAL CREDIT**, 14 Light St., Baltimore 2, Md.

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Super Market Chooses the "Series 50" for Wide-Range Storage Requirements

The newest store in Wrigley's Detroit super market chain is a model of food protection efficiency. Of special interest in this store are the cold storage doors. Constructed of Marine plywood—in which the plies are bonded together into an integral unit by a synthetic resin adhesive, hot pressed and tempered after setting—the doors are completely waterproof, bacteria-proof and fungi-proof!

Wrigley's chose the Jamison "Series 50" because it was the only door designed to withstand severe super market use as well as affording the optimum in sanitation.



Newest store in Wrigley chain equipped with Jamison Cold Storage Doors.

Other exclusive Jamison features that make the "Series 50" the finest cold storage door ever built:

MONOPANEL CONSTRUCTION

LO-TEMP GASKET

E-Z-OPEN FASTENERS

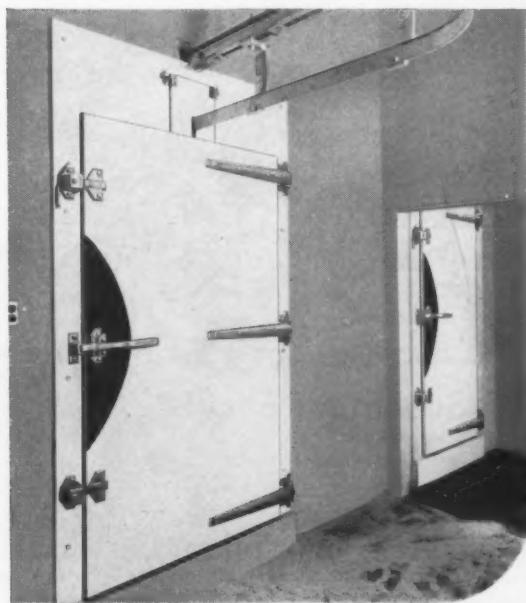
ADJUSTOFLEX HINGES

SILLSEAL GASKET

VAPORSEAL VAPOR BARRIER



Track Door speeds movement of meat and other perishables in and out of storage room. Equipped with the exclusive Jamison "Adjustoflex" Track Port Opener, foolproof operation and tight seal of door are assured when door is closed. View below shows Track Door closed. E-Z-Open two point fasteners maintain a uniformly tight seal.



The oldest and largest builder of insulated doors in the world

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SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION



WHEN YOU WORK WITH REVERE

DRYSEAL

REFRIGERATION TUBE

**DIRT AND MOISTURE
ARE OUT BEFORE YOU START!**

When Dryseal Tube reaches you the inside is as smooth and shiny as the bore of a new shootin' iron. For the last step in manufacturing Dryseal is to close both ends with a precise, mechanical, double-crimp seal. This bars the faintest trace of dirt and keeps Dryseal bone-dry. The seal is made in such a way that the diameter of the tube does not change, which permits Dryseal to be passed through any opening large enough for the tube itself.

While Dryseal may be stubborn about keeping out dirt and moisture it's a soft touch when it comes to bending. The soft temper of the copper used in Dryseal allows you to make the most intricate bends by hand. And its ductility and special temper make it extremely easy to flare for compression fittings without danger of splitting. Economical tube sizes range from $\frac{1}{8}$ " to $\frac{3}{4}$ " O.D.

And, for your greater convenience, Dryseal is packed in a nifty-50 one-coil carton. This carton, which has been attractively designed for easy identification in stock, contains one 50-foot coil of Dryseal... is easier to handle, light weight, economical and is sturdily made to assure protection of the tube.

IN THE EASY-TO-HANDLE
NIFTY-FIFTY...ONE COIL CARTON



REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.;
Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.,—
Sales Offices in Principal Cities, Distributors Everywhere

SEE REVERE'S "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY

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and AIR CONDITIONING • SEPTEMBER, 1952



st insist ... on a **CLEANABLE** CONDENSER

Water-Cooled, Double Tube, Counter-flow

Regardless of whose condensing unit you buy in any size from $\frac{1}{8}$ through 25 H.P.—your first demand is to insist that it have a **CLEANABLE** water-cooled condenser. It costs no more originally, and the added advantages in longer life and more efficient service can't be overlooked. No matter how poor the water conditions, and no matter how long the service of the unit, you can always count on

restoring new-unit efficiency by the simple use of a spiral cleaning tool which will thoroughly remove, *mechanically*, all the harmful corrosive material that might accumulate on the water tube interiors. You needn't settle for less, for almost all leading manufacturers are recognizing the advantages of cleanability—and are equipping their units accordingly in *all* sizes. Capacity Range $\frac{1}{8}$ through 25-ton.

JOBBERS in all principal cities carry HM condensers in stock for immediate delivery.



Halstead & Mitchell

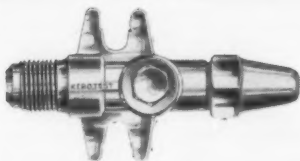
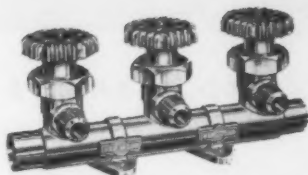
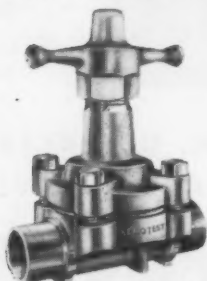
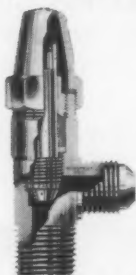
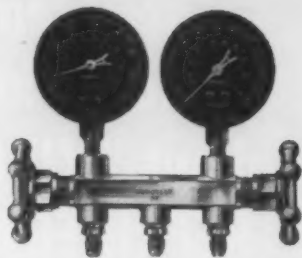
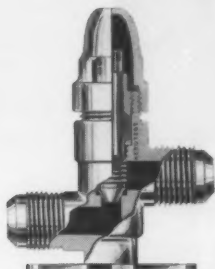
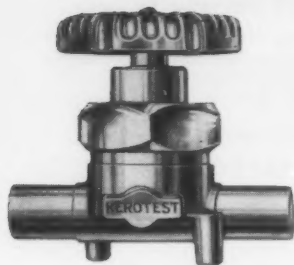
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SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

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There's no substitute for quality manufacture and there's no quality finer than you get in genuine KEROTEST Refrigeration Valves and Fittings. In the critical applications . . . where quality counts most . . . it's KEROTEST. Always *extra quality* at no extra cost! Buy the best—buy KEROTEST.

See Your
Kerotest Wholesaler
FIRST

KEROTEST

KEROTEST MANUFACTURING COMPANY
Pittsburgh 22, Pa.

What the serviceman should know about "VIRGINIA" REFRIGERATION products

EXTRA DRY ESOTOO (bp +14°F.)

The refrigeration grade SO₂ that service and maintenance engineers have endorsed for more than 20 years. Comes in all popular cylinder sizes.

V-METH-L (bp -10.7°F.)

"Virginia" Methyl Chloride is made specifically for refrigeration use. Its low moisture content, low acidity and narrow boiling range meet the most exacting requirements.

"VIRGINIA" DISTRIBUTES...

"FREON" REFRIGERANTS

(a product of "Kinetic" Chemicals)

"FREON-113" "FREON-114" "FREON-11"
(bp 117.6°F.) (bp 38.0°F.) (bp 74.7°F.)

"FREON-12" "FREON-22"
(bp -21.6°F.) (bp -41.4°F.)

SUNISO REFRIGERATION OILS
PERMAGUM SEALING COMPOUND
PRESSTITE INSULATION TAPE

TO CHARGE A SYSTEM, USE REFRIGERANTS THAT ARE
CONSISTENTLY PURE, CONSISTENTLY SURE

"VIRGINIA" CAN-O-GAS—THE MODERN METHOD OF CHARGING A SYSTEM

Handy, throw-away, no-deposit can. The perfect way to charge hermetic systems, water coolers, beverage coolers, vendors. Available filled with "Freon-12" (15 oz.) or "Freon-114" (16 oz.). Each can is precision-filled to make certain the refrigerant is clean and dry. Can-O-Gas features a simple, practical clip-on opener which fits small valves designed for

this use. Slip it on the can; turn to puncture seal. It's leakproof, foolproof.



VIRGINIA
Refrigerants

ASK YOUR WHOLESALER
OR WRITE
VIRGINIA SMELTING
COMPANY

WEST NORFOLK, VIRGINIA

PHILADELPHIA • NEW YORK • BOSTON
CHICAGO • DETROIT • ATLANTA

Circle No. 30 on Reader Service Card for more information

SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION



Lehigh

MANUFACTURING COMPANY

Division of Lehigh Foundries, Inc.

FOUNTAIN AVE., LANCASTER, PENNSYLVANIA

LANCASTER 5281

AN IMPORTANT ANNOUNCEMENT TO PAR CUSTOMERS AND USERS



Recently, LEHIGH MANUFACTURING CO., purchased the PAR REFRIGERATION DIVISION of the Lynch Corporation.

From now on, the WHOLESALER you have always purchased from, will supply PAR parts and exchange compressors for all PAR OPEN TYPE CONDENSING UNITS.

LEHIGH is assuming full responsibility for all existing ONE YEAR WARRANTIES on open type units. PAR, in Toledo, Ohio, will continue to handle Warranty and Parts Service on all PARMETICS and PAR HERMETICS.

With this announcement, the LEHIGH TEAM extends a most sincere welcome to PAR customers everywhere — and an invitation to learn more about LEHIGH products and the policies which have brought LEHIGH so rapidly to the forefront of the industry.

We suggest that you place your name on our mailing list to receive all current catalogs and releases.

The LEHIGH TEAM

- ★ Packaged-Standard-Heavy Duty AIR COOLED UNITS — 1/4 thru 3 H.P.
- ★ Heavy Duty WATER COOLED UNITS — 1/2 thru 5 H.P.
- ★ Combination AIR-WATER COOLED UNITS — 1/2 thru 3 H.P.
- ★ Packaged AUTOMATIC DEFROST SYSTEMS
 - ★ Systems and Units for REFRIGERATED TRUCKS
- ★ HERMETIC UNITS — 1/4 thru 1/2 H.P.
- ★ BARE COMPRESSORS — 1/4 thru 5 H.P.



"America's Most Modern Condensing Units and Systems"

Circle No. 31 on Reader Service Card for more information

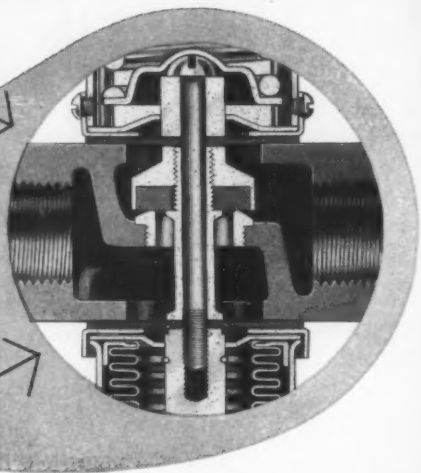
PENN WATER VALVES

Stay on the job

MUCH LONGER



here's
the reason



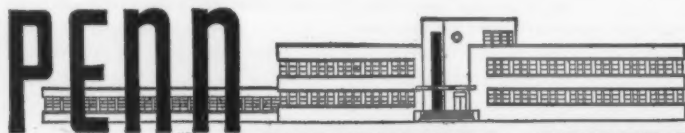
In the PENN Series 246 Water Valve... *bellows, range spring and sliding parts* never come in contact with water. Two nylon-reinforced synthetic rubber diaphragms (see cut-away view) effectively *keep water out* of these important "working parts".

Thus... the destructive effects of sedimentation and abrasive deposits which cause premature wear and water valve failure, *never* have a chance to attack the PENN valve. Result... more dependable operation and much longer life!

In addition, PENN's *better* design eliminates

water hammer... sticking of seats... need for lubrication. And the water valve is *highly sensitive* to changes in refrigerant head pressures to assure highest efficiency.

Built in sizes from $\frac{3}{8}$ " to $2\frac{1}{2}$ " and in flanged or threaded styles, PENN Series 246 Water Valves are *your best buy*. Ask your wholesaler or write **Penn Controls, Inc., Goshen, Indiana**. Export Division: 13 E. 40th Street, New York 16, N. Y., U. S. A. In Canada: Penn Controls Limited, Toronto, Ontario.



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES

Circle No. 32 on Reader Service Card for more information

SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

AIR CONDITIONING has been credited with an assist in winning the GOP presidential nomination for Gen. Dwight D. Eisenhower. Gov. Theodore R. McKeldin of Maryland, who made the nominating speech for Ike, had this to say when the hectic week was over: "When you look back now over our long and tense convention, it seems clear that air conditioning played an important role. By sparing delegates undue physical exhaustion, it helped prevent the danger of apathy that might have cut short the Eisenhower boom before it had a chance to turn the pre-convention tide for Taft."

TAKING A LOOK into the future of home refrigerators and freezers at one of its recent meetings, the Chicago chapter of the Industrial Designers' Institute has generally concluded that table top modular-type units offer the design and merchandising appeals that could capture consumers' interest. The discussion was on a purely hypothetical basis, and involved such design innovations as pull drawers with side openings and pie shaped removable trays. General opinion was that the modular units would offer merchandising appeal and would help the manufacturer recapture the imagination of the retail sales people, and might also provide the "shot in the arm" that would bring retail appliance selling out of the doldrums.

AIR-FRESHENING LAMPS are being installed in the entire fleet of DC-3 passenger planes operated by American Airways linking some 50 eastern cities. Purpose of these Westinghouse "Odorout" ultra-violet lamps is to supply a continuous "fresh air" aroma for the benefit of passengers. The lamps have long been standard equipment in the lavatories of ships on this airline, but now several of them are being mounted under the seats of the passenger compartment itself, where they will also serve to illuminate the aisles during night flying. The lamps will be installed as soon as final approval is received from CAA.

FIRST AIR CONDITIONED TAXICAB in Miami, Fla., made its appearance on the city's streets this summer, but its driver figures that he won't have long to enjoy his monopoly. "When the other drivers see the merits of air conditioned cabs," he moans, "I know they'll want to climb on the bandwagon." Temperature in the conditioned cab, it is reported, ranges from 12 to 18 F below the temperature outside, and humidity is held to about 30%. The unit, installed behind the back seat of the cab, operates automatically, and temperature can be regulated as desired.

DEFINITELY IN THE CARDS for the average price residence is year-around air conditioning, according to a recent issue of the House & Home Edition of "The Magazine of Building." In fact, this publication points out, the mass market for residential year-around systems may be a lot closer than many people realize. The magazine describes air conditioning as "the builders' newest sales tool," and declares that it could develop into the greatest single identifying feature of the 1953-model home. Like the self-starter on the automobile, one builder explains, air conditioning has started out as luxury, but could readily develop into a standard feature of residential construction.

FROZEN BEER AND WINE may become common commodities, if a couple of recent European developments live up to their initial promise. French army quartermasters, it seems, have evolved a method which makes it possible to distribute packets of condensed wine to troops in the field, just as readily as packs of cigarettes. This condensed product, when mixed with water, is said to provide an excellent portion. Refrigeration plays an important part in the condensing process, as the wine has to be cooled to the point at which its natural water content crystallizes out, leaving all the alcohol and other natural constituents. And it's the Germans, as you might expect, who have come up with a process for quick-freezing beer. Reportedly, the contents of a half-pound tin of the frozen concentrate will yield a full pint of Pilsener beer when mixed with water.

Air conditioning solves the problem of hot-weather personnel turnover in the institutional laundry where

EVERY DAY IS WASHDAY

ONE of the most serious aspects of present-day institutional laundry management—high turnover of employees during the hot summer months—has been completely eliminated at the Roosevelt Hotel in Waco, Tex., with a unique air conditioning system which was installed by Robert Boyd, engineer of the H. I. Kelly Refrigeration Co. of Waco.

Like many other leading hotels which handle all institutional laundering and provide guest services on the premises, the Roosevelt Hotel has, in summers past, been faced with the need for continuously training replacements for laundry employees who resigned when temperatures climbed above the 100-degree mark, accompanied by high humidity.

In past years, the problem was less severe, due to the fact that there was plenty of unskilled help available for laundering operations, but now that defense and a swift expansion of industrial manufacturing in the Waco area has sapped away much of this "labor pool" the hotel found it necessary to go to great lengths to maintain its staff.

Therefore, after the record heat-wave summer of 1951, this leading central Texas hotel, already advertised as "The only 100% air conditioned hotel in the Waco area", de-

termined to provide cooling of so effective a nature that the employee turnover of 50% or more normally experienced during these months could be done away with.

While the hotel was fortunate in that it already was equipped with a 275-ton Chrysler-Airtemp refrigeration plant, installed for cooling the guest rooms and public spaces, Boyd found that the laundry, located in a 50 x 50-foot basement room, with several corridors and compartments branching off from it, could not easily capitalize upon the nearby presence of so much refrigeration capacity.

There was little ventilation to begin with, and the rooms formed a natural "trap" for collecting heat.

Outlets "Aim" the Air

After studying many systems and finding most of them impractical, Boyd hit upon the ideal solution in the form of "cone diffusers", nine of which are mounted at intervals around the ceiling, directly over the machines or work centers which create the heaviest portion of the heat load.

Three of these diffusers are located at the entry side of the flatwork ironer, while single units are posi-

tioned over shirt presses, hand-ironing boards, steam-iron boards, tumbler, etc. The result has been that there now is a definite "pool" of sharply cooled air descending directly upon the operator at each of the stations. No attempt has been made to cool the entire room overall, as this would waste much of the conditioning system's output.

All of the nine outlets are served by a single continuous duct through which refrigerated air is delivered at capacities ranging from 10,000 to 18,000 c.f.m.

A special air-handling plenum chamber is suspended from the ceiling in one corner of the main laundry room. One 6-row finned coil is supplied with chilled water piped direct from the shell-and-tube Airtemp refrigeration units in the adjoining basement room.

The chilled water which is circulated through the coil is equivalent to 22 tons of refrigeration capacity which, according to Boyd, is far more than would normally be needed. The reason for providing so much refrigeration capacity for a comparatively small space was that it was felt desirable to utilize 100% fresh outside air.

During the summer, all of the air is pulled in from outside, filtered,

Here's the equipment which did the job →

refrigerated, and delivered at a carefully metered rate through the conical diffusers over the workers below. The air comes out of the diffusers at a temperature of 66 F, and is still at 85 F, by the time it reaches the floor. These conditions are maintained even when all of the laundry equipment is going full blast and the outside temperature is above 100 F.

100% Outside Air

During the winter months, the admission of exclusively outside fresh air is likewise desirable. For this reason a steam coil was installed in the same air-handling chamber. This provides plenty of heat to temper the incoming fresh air.

The heated air, after it sinks to the floor, is exhausted through two special stacks by means of two powerful exhaust fans of 5,000 c.f.m. capacity each.

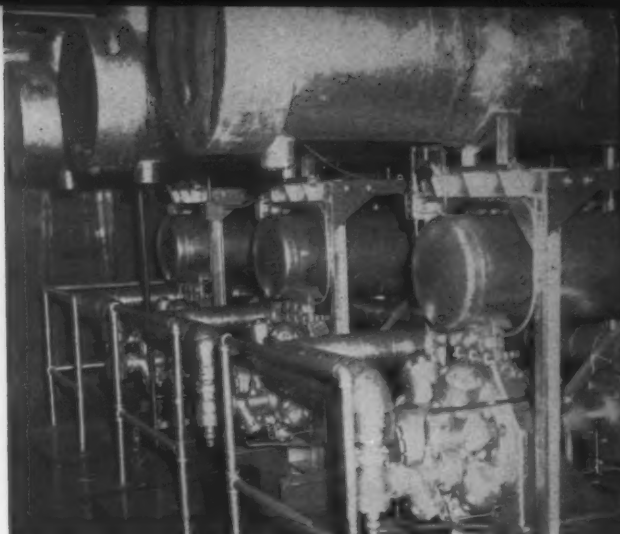
Net result of these installation techniques is a laundry room as pleasantly cool as any guest room, dining room, or public space in the hotel.

9 Separate Zones

This unique system actually provides nine individual zones in the laundry, with nine workers in key spots directly below each cooling unit and others spotted at junctions between, where they are kept equally cool. The thermostat which maintains the 66 F temperature is mounted in the ductwork, just past the air handling unit, where it controls the amount of chilled water withdrawn from the refrigeration system.

Instead of depending upon room temperature, which is deceptive due to the widely-scattered heat-producing laundry machines, outside air, no matter what its entering temperature, is conditioned to 66 F.

COOLING for the hotel's laundry area was topped off this existing 275-ton refrigeration plant located in an adjoining room.



AIR HANDLING UNIT suspended from the ceiling in one corner of the main laundry room delivers properly chilled air to the ducts.

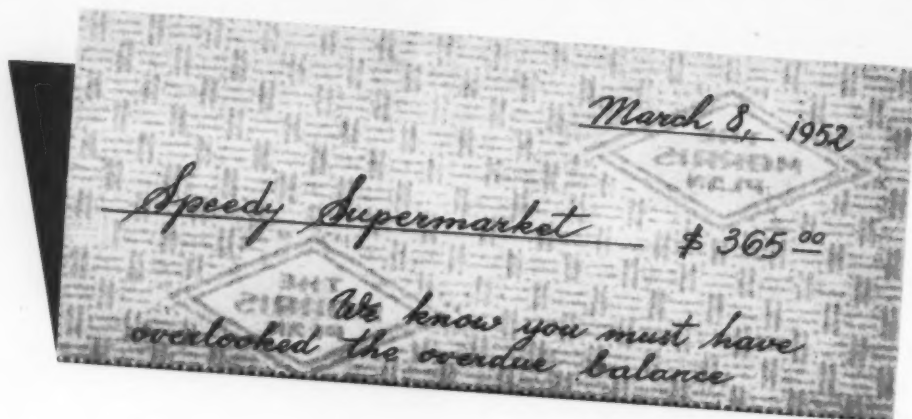


OVERHEAD DIFFUSERS located above each equipment station direct conditioned air to points where it is most needed by workers.



Want to cut your credit losses
to less than 1%? Then

MAKE YOUR BILLS



LOOK LIKE CHECKS

Worried about the increasing difficulty of collecting over-due accounts? Then send out your statements in a form that makes them look like checks rather than bills.

That's the collection technique which has been instrumental in aiding Savage & Son, Inc., to hold its credit losses down to 1%, or even less.

This firm operates a sizeable refrigeration, air conditioning, plumbing and heating business in Reno, Nev. During the 10 years of its operation it has had plenty of opportunity to experiment with a wide variety of collection methods.

Reno, the Savage management believes, constitutes an ideal proving ground for such experiments, because it is an extremely difficult town in

which to keep in close contact with customers. For every "settled" account there seems to be at least one which moves around, or—not infrequently—vanishes.

As the cost of living continues high, with incomes lagging far behind, it is only natural that many accounts which would be readily collectible in normal times require plenty of arduous effort today—especially in Reno's rather unorthodox business environment. Savage executives have found that they must give serious thought to every element of psychology which might tend to elicit the desired response from the customer.

In this continuing endeavor to cut down collection costs and reduce credit losses, Savage's credit department

has found the fountain pen a stauncher ally than the typewriter. They utilize every possible means to keep their bills from even remotely resembling the customary stereotyped business statement.

One important factor in this strategy of deception is that the company utilizes a collection letter which looks for all the world like a check, even to being prepared upon the same type of protective paper on which checks are printed. To add a personalized touch, all of those letters which are slanted at over-due accounts are written by hand in ink.

Each of these statements is then mailed in an envelope with the usual glassine window opening revealing the customer's name and address

Continued on page 74



OVER 200 MAJOR MANUFACTURERS of refrigeration and air-conditioning equipment use Tecumseh Compressors. All Tecumseh units are lubricated with Suniso—more than 10 million since 1935. The 2 cylinder compressors shown here are being charged with Freon 12 and Suniso.



THE PURITY OF SUNISO is protected from storage tank to charging board. Here, just prior to charging, the oil is treated to eliminate any gases or moisture possibly picked up in storage. This operation is typical of precautions taken to assure the top protection Suniso can provide.

ALL TECUMSEH UNITS—OVER 10 MILLION OF THEM—HAVE BEEN SUNISO CHARGED

Tecumseh Products Company, of Michigan, is the world's largest manufacturer of refrigeration compressors. The reputation its products enjoy for long, troublefree service is unexcelled. One reason is that all bearings are superfinished by diamond boring, Bearing-izing and Micromatic honing. Limits of a few ten-thousandths of an inch are held on all bearing parts. Another reason: ever since its formation in 1935, Tecumseh has charged its compressors with Suniso Refrigeration Oil exclusively.

Today well over 10 million Suniso-charged Tecumseh Compressors are in service. They range in size from a 1/9 hp hermetic to a 15 hp conventional. Current production is geared to approximately 2¼ million hermetic units a year. Their entire production of both types of compressors will be protected by Suniso.

Most equipment manufacturers throughout the industry specify and use Suniso. Use this "Job Proved" product yourself, and reduce your service calls.



AS LITTLE AS ONE DROP OF WATER can freeze and clog up a refrigeration system. To make sure they are as free of moisture as the oil, the compressors are kept in drying ovens at 270 to 290 F for at least 8 hours before charging.

DEPARTMENT RI-9

SUN OIL COMPANY, Philadelphia 3, Pa.

Please send the booklet "Lubrication of Refrigeration and Air-Conditioning Equipment."

Name _____

Title _____

Company _____

Address _____

City _____ Zone _____ State _____

TECHNICAL ASSISTANCE AVAILABLE. Sun's engineers are at your service for consultation on lubrication matters. It will pay you to utilize the experience they have gained in solving a wide variety of problems in many different industries.

SUNISO REFRIGERATION OILS

SUN OIL COMPANY, PHILADELPHIA 3, PA. • SUN OIL COMPANY, LTD., TORONTO & MONTREAL



COMMERCIAL *Refrigerator* SALES NEWS

Trade-Ins are Regular Part of Dealers' Sales Activity

In a recent survey of 72 commercial refrigerator distributors, it was found that all but two accept trade-ins on sales of new equipment. The survey was made by the National Commercial Refrigerator Sales Association.

Of the 70 distributors who accept used equipment as trade-ins on new equipment, 91% recondition trade-ins for resale, 100% re-sell equipment through regular salesmen, 57% reported that 10% or more of their sales in 1951 were in used equipment, 68% made a profit on the used equipment sales last year, and 70% gave 90 days or more free service on used equipment, according to the NCRSA figures.

Most of the commercial refrigerator distributors covered in the sur-

vey do not have a standard trade-in allowance, but rather base their allowances on "age, condition, make of equipment, and demand for it", it was found. A number use for formula of "estimated resale value less the cost of reconditioning, less delivery, selling expense and markup."

A few of the distributors, however, use a standard trade-in allowance which varies from 5% of list price for equipment which is more than four years old up to as high as 30% for equipment just one year old.

Average inventory of used equipment items, the NCRSA survey found, ranged all the way from 4% for one distributor to 50% for another. Twelve distributors reported 10%, nine 20%, nine 5% and six 15%.

In regard to percentage of 1951

sales, used equipment accounted for as much as 40% of one distributor's sales, and as little as 1% of another's.

Forty eight of the distributors surveyed by NCRSA reported they made a profit on their reconditioned equipment last year, while 16 broke even and six reported a loss on this equipment in 1951.

All of the distributors who reported that they handled used equipment said they disposed of it through their salesmen. Forty four distributors reported they paid the same rate of commission on used equipment as on new; eight paid more, and 5 less.

12 INDUSTRY FIRMS WIN AWARDS FOR REPORTS

Twelve refrigeration and air conditioning companies have been given "merit award" certificates by *Financial World* magazine in its 12th annual report survey. One of the 12 reports will be selected for a "best of industry" award in the final judging on Oct. 28 in New York City. Trane Co.'s 1950 annual report won top honors in this industrial classification last year.

The companies awarded merit certificates are American Air Filter, Carrier Corp., Copeland Refrigeration Corp., Fedders-Quigan Corp., Hussmann Refrigeration, Servel, Tecumseh Products, Trane Co., Tyler Fixture Corp., U. S. Thermo Control, Victor Products Corp., and York Corp.

COMMERCIAL REFRIGERATOR SELLING, SOUTHERN STYLE



REAL SOUTHERN HOSPITALITY was the theme of the Warren Co's exhibit at the 1952 convention of the National Association of Retail Grocers in Miami during June. Staff and field representatives who greeted visitors in the booth carried out the Southern atmosphere by wearing genuine "Southern Colonel" panamas and string ties—and a sign in the display read: "Warren Welcomes You—all". The southern "kühnels" shown above are Harold Webb, southeastern district manager; Charles Spencer, midwest district manager; Roger Jacobs, vice president in charge of sales; and Earl Barton, assistant sales manager.

A. O. SMITH EXPANDS HEATING ACTIVITIES

The A. O. Smith Corp. announced three coordinated moves by which the company is enlarging and streamlining its activities in the heating field. These moves are:

1. The introduction of a line of warm air furnaces.
2. Consolidation of the Water Heater Division and the Heating Division into a new Permaglas-Heating Division with headquarters at Kankakee, Ill.
3. Transfer of the Heating Division's manufacturing facilities and marketing personnel from their present location at Toledo to Kankakee.

F. S. Cornell is the general manager of the new Permaglas-Heating Division. Assistant manager is J. F. Donnelly.

MUELLER BRASS CO. DRIERS do a thoroughly effective job of drying and filtering refrigerants

DELUXE — Drying agent sealed in at the factory — under strict laboratory control. Can be filled with any drying agent desired.



REFILLABLE — Just remove inlet plug and inlet screen tube, pour out old drying agent and refill. Replace tube and plug and it's ready for service again.

CARTRIDGE TYPE — Just remove flange cap from inlet end of drier and replace the old cartridge with new dehydrating cartridge which is completely assembled with filter and strainer unit. On side outlet model, cartridge may be replaced without breaking line.



There are Mueller Brass Co. driers available for every type of service. They keep the refrigerant clean and dry, remove the minute particles of foreign matter and they are safe and reliable wherever they are installed. Each of the three types of Mueller Brass Co. Driers shown here have these fine construction features:

Exclusive cone screen filter-strainer filled with chemically purified wool provides a filter area $5\frac{1}{2}$ times the area of a disc. This filter increases the working life of Mueller Brass Co. driers because it virtually eliminates clogging, insures free flow of the refrigerant at all times.

Husky forged brass ends are threaded and soldered to the heavy copper shell to provide an extra factor of safety.

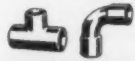
Wide wrench flats make it possible to get tight connections that stay tight.

A beautiful finish that makes an especially attractive installation in any system.

Mueller Brass Co. driers are available in sizes from $\frac{1}{4}$ " to $1\frac{3}{4}$ " outlets, and dessicant capacities from 3 cu. in. to 242 cu. in.



DRIERS AND FILTERS



WROUGHT COPPER FITTINGS



FLARE FITTINGS



LIQUID INDICATORS



VALVES



STREAMLINE refrigeration products are individual and multiple packaged for complete protection.



Write for catalog R-152 describing complete line of STREAMLINE Refrigeration products.

MUELLER BRASS CO. PORT HURON 12, MICHIGAN

For the contractor called upon to handle a variety of space heating problems . . .

UNIT HEATERS CAN DO A JOB

UNIT heaters have been giving satisfactory and dependable service for many years in many fields. Due to the fact that they have large heating capacities concentrated in small space, coupled with the air moving feature, they are able to heat large areas at extremely high speed. Unit heaters can also be used during summer months to circulate cooling air throughout the structure.

The initial cost of a unit heater system is low because only a fraction of the valves, traps, and connections required for old-fashioned systems are used. A unit heater weighing 100 pounds has a heating capacity equivalent to more than a ton of cast iron radiating surface or pipe coil.

Old style systems which furnish heat to areas where it is not specifically needed cause over-heating or lost heat and result in excessive heating costs. By the use of unit heaters, a close correlation can be provided between requirements and performance, with subsequent fuel savings.

Not the least of the factors in favor of a unit heater system is the knowledge that often plant layouts are changed or additional equipment installed. A new heat distributing pattern may then be required. This should be seriously considered when the new heating system is selected. Here the unit heater offers great advantages because the set up can be easily rearranged to meet the new working requirements.

When unit heaters are used to replace less efficient heating methods, it is a clear case of modernizing for

profit and not for the sake of spending money. As soon as a new unit heater system begins operation, appreciable savings are apparent. General experience has shown that fuel savings alone pay for the new heating installation in only two or three years.

Horizontal unit heaters are designed for mounting on side walls or ceiling suspension. Vertical or downblast discharge unit heaters are designed to be suspended from ceilings only. The centrifugal type is a high capacity unit with vertical or horizontal discharge and may be mounted anywhere.

Air Flow Is Downward

The warm air flow from the horizontal type is downward, away from the ceiling, and directly toward those working areas where heat is needed. Vertical discharge unit heaters are especially advantageous for use in buildings with high ceilings. Warm air is forced down, and out, to cover wide areas.

The fundamental principle of effective space heating by unit heaters is the circulation of relatively large volumes of air at a sufficient velocity and at a final temperature low enough to avoid stratification and the consequent accumulation of excess heat in the upper areas. It is good practice to circulate the air at a rate not less than three air changes per hour based on room volume, and to avoid final temperatures in excess of 135 F.

An increase of air circulation

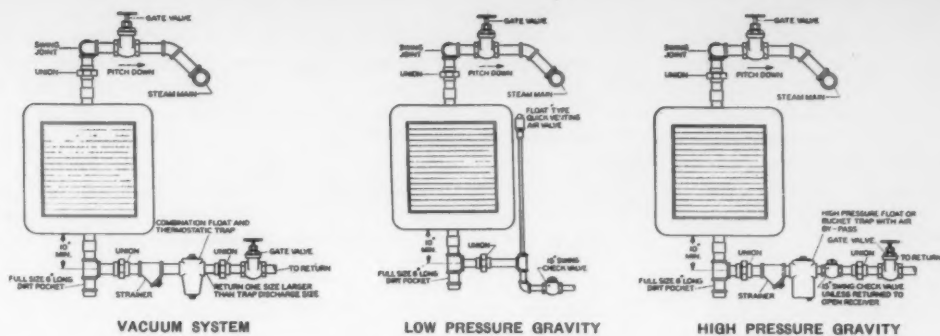
above this minimum value will promote better distribution with a reduction in temperature stratification. Particular attention should be paid to final temperatures where higher steam pressures are employed. In this case the use of low temperature heating elements will prove advisable.

With all suspended-type unit heaters the temperature of the air entering the fan will be higher than that at the 5-foot level or so-called "breathing line." This difference will depend in most cases, upon the height of suspension, and should be taken into account in determining the effective capacity of the units.

It is good practice to allow a 1½-degree increase in entering air temperature per foot of height that the unit is suspended above the 5-foot level. Thus, if the desired 5-foot level temperature is 60 F and the unit is suspended 12 feet from the floor (to center of fan), the actual unit inlet temperature will be 70 F, and the capacity should be selected on this basis.

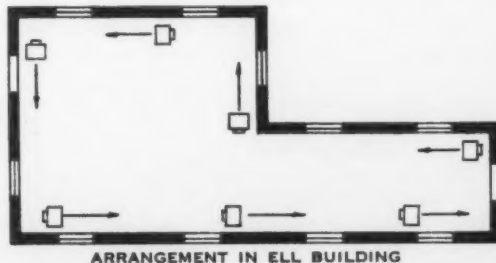
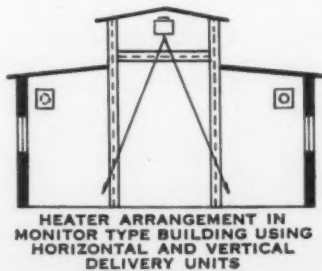
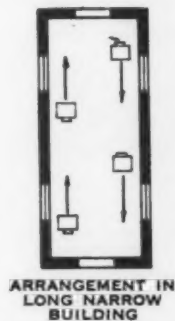
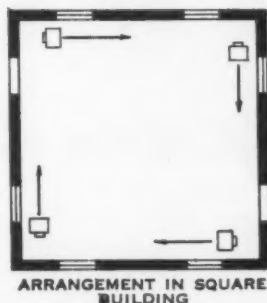
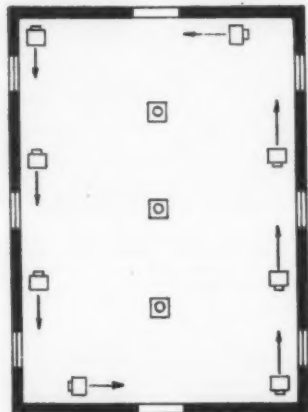
A widely used method of unit heater control that is simple and reliable is based on the starting and stopping of the unit motor in accordance with room temperature; this is known as on-off control. This arrangement requires the use of a room thermostat wired in series with the motor and adjusted to break the circuit when the room reaches the desired temperature.

In cases where more than one unit is to be controlled from a single thermostat, a magnetic switch or re-



▲ Three basic types of unit heaters

Typical installation diagrams ▼



lay may be necessary to handle the current. Where the steam supply is intermittent, it is advisable to include in the control circuit a surface thermostat mounted on the return piping near the unit. The purpose of this control is to keep the motor circuit open until the heating element is filled with steam, and thus prevent the blowing of unheated air.

Modulating control is more effective than on-off control because it allows the fan to operate continuously and throttles the steam supply to the heater. This type of control provides a constant discharge and eliminates intermittent blasts of hot air. The continuous circulation prevents air stratification which is present when the fan is off.

Modulating control, generally, is well suited only for those installations where the unit heaters are lo-

cated 10 feet or more above the floor level to avoid drafts. Essentially, this type of control is accomplished by a proportioning valve in the steam line which operates in response to a thermostat in the area. The fans may be run constantly or switched off manually.

A unit heater system should consist of a number of well distributed units in order to provide the most effective heating. The air flow from one heater should support the air flow of the adjacent unit. Air flow should be parallel to the cold wall wherever possible so that the least amount of cold air film along the wall is disturbed. Disturbance of the cold air film increases the heat loss through the glass and walls.

For maximum worker comfort in industrial applications, unit heaters should be arranged to blow in open

spaces, and not directly on workers. Whenever possible, airflow from unit heaters should be across doors and other outside openings. Vertical type unit heaters are often best for counteracting drafts from doors.

Units should never be installed higher than the maximum mounting height recommended by the manufacturer, except when the space below the floor is heated. In such cases, 1 to 2 feet may be added to the recommended maximum mounting height. For good performance, unit heaters should be installed with the back or side of the unit not less than 3 feet from the wall.

In some cases, it is preferable to have several small units rather than a few large units. By using several units, more uniform heating and greater flexibility is possible for

Continued on page 90

Air Conditioning Aids Success of Plant Cafeteria



THIS LARGE, sunny employee cafeteria recently opened by the Railway Industrial & Engineering Co., Greensburg, Pa., manufacturer of circuit breakers, insulators and other equipment for public utilities, is cooled by a 5-ton Typhoon packaged air conditioner unit.



SERVING LINE of the Railway Industrial & Engineering Co. cafeteria is cooled by another 5-ton packaged Typhoon unit. Besides providing comfort for employees as they fill their trays, it also helps maintain comfortable conditions for the servers.

There is an increasing awareness of the value of company cafeterias. By installing its own eating facilities a firm can control the price that the employees pay for their lunch and the quality of the food. Furthermore, many offices and plants are located far from good eating places and the lunch problem often becomes troublesome.

However, for a factory cafeteria to be economical, the company must be able to count on the cooperation of its employees. If the number of meals varies appreciably from day to day, obviously the cafeteria cannot be run efficiently and there will be unavoidable waste. Therefore, in addition to any company policy requiring employees to use the restaurant, it must be made as comfortable and attractive as any outside restaurant. For this reason, air conditioning is just as important here as it would be in a commercial establishment.

An impressive in-factory cafeteria installed recently is the one set up by the Railway Industrial and Engineering Co. in Greensburg, Pa. This cafeteria includes two 5-ton Typhoon air conditioners, an all stainless steel kitchen, stainless steel cafeteria equipment and seating equipment for 118 people, all of which was installed by the Commercial Appliance Co., Typhoon dealer in Greensburg.

One of the 5-ton units sits at the end of the long, well-lighted dining room. Because of the large window area here, this room would become intolerably warm without air conditioning. The other unit is installed at the end of the serving counter to provide comfort for employees as they fill their trays. It is also important in maintaining comfortable conditions for the servers.

Railway Industrial & Engineering Co. manufactures circuit breakers, insulators and other equipment for public utilities all over the country.

HERE ARE 3 OF MANY REASONS FOR YOU TO SWITCH TO SUPERMETIC



1. There's real endurance insurance in every inch of every Servel Hermetic Unit; utmost design simplicity; painstaking construction; extra protection for all moving parts — including built in, force-feed lubrication.
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3. Servel's low-cost Factory Warranty is truly a gilt-edged investment in satisfaction and profit-protection — the clinching reason for you to . . .

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Models for every commercial refrigeration
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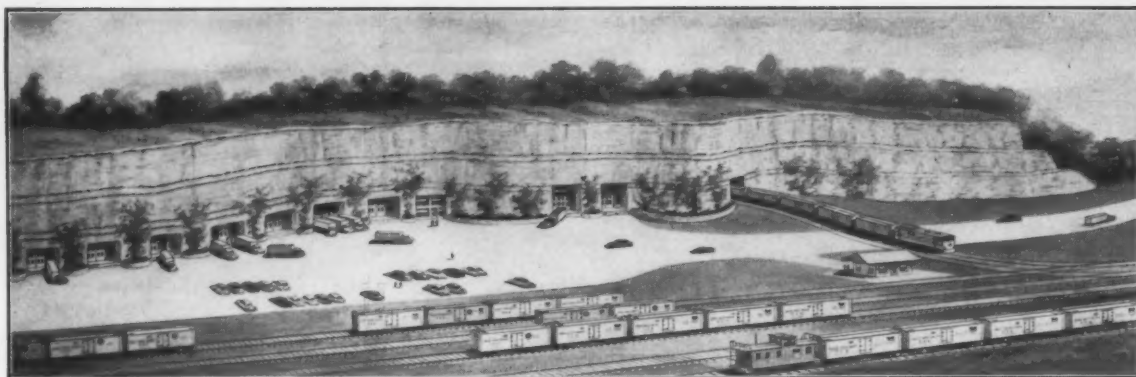
TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

It's just a hole in the ground . . .



. . . but to convert this limestone cavern to a food terminal meant plenty of

BIG UNITS for a BIG JOB

NATURE'S own cooling system has been augmented by a sizeable quantity of mechanical equipment to constitute one of the largest food storage terminals anywhere in the country.

Located at Coldspur, Kansas, some 17 miles west of Kansas City, the vast limestone cavern which forms the heart of this warehouse lies under a 72-foot layer of limestone which covers about 500 acres of land. This limestone has been excavated through an area of some 1 million square feet, except for the columns which were left in place to support the roof. Space between these supporting columns averages 40 feet.

This excavating has provided a total storage space currently in use of some 2,400,000 cu. ft. Plans call for eventual expansion of this storage area to 10,000,000 cu. ft.

Natural temperature within this

limestone formation holds steady at approximately 55 F the year around. This gives the Coldspur warehouse a headstart in providing the necessary temperatures for its refrigeration facilities. All the mechanical equipment has to do is take over from that 55 F point and bring the temperature down to the desired level.

Floor of the limestone quarry was leveled and covered with a 4-inch slab of concrete. Ten outside openings at the base of the stone bluff provide easy access for railway cars, trucks, and loading equipment. A double-track spur of the railroad extends into the cavern itself, being depressed to form a "track well" so that the main floor of the warehouse is on the level of the car floors.

The 50,000 sq. ft. of space at the front of the warehouse is used for dry storage, as well as loading space. Behind this dry storage area is an

equal amount of space divided into rooms which are held, with the aid of refrigerating equipment, at temperatures of 32, 36, and 40 F for the storage of various types of perishable food products. This area totals 800,000 cu. ft. in volume.

Still further inside this man-made cavern is 600,000 cu. ft. of freezer space held at -10 F. Future plans call for the addition of a quick-freezing tunnel, as well as ice-making facilities which will make possible the initial icing of railroad refrigerator cars before they leave the underground cold storage warehouse.

Mechanical refrigeration for this vast space is provided by 18 Frick unit air coolers, each equipped with 5-hp fan motors and having deflecting vanes on the outlet elbows. Chilled brine is fed to these units through insulated pipes running close to the ceiling. There are two brine coolers,

one 20 inches in diameter by 15 feet long, and the other 24 inches in diameter by 16 feet long.

The compressor equipment which powers this installation consists of two Frick 8 x 8 units and an 11½ x 8 booster compressor. This equipment is soon to be augmented by a 10 x 10 unit and 10 new brine spray units.

In the existing installation, the low temperature space is handled by the 11½ x 8 booster compressor discharging through a gas-and-liquid cooler into an 8 x 8 second-stage machine. This in turn is connected to a multipass condenser 20 inches in diameter and 15 feet long.

The other 8 x 8 machine is connected to the 24-inch brine cooler, and discharges into a condenser of the same size as that employed on the low temperature phase of the installation. The booster machine is driven by a 50-hp motor, while each 8 x 8 is powered by a 75-hp motor.

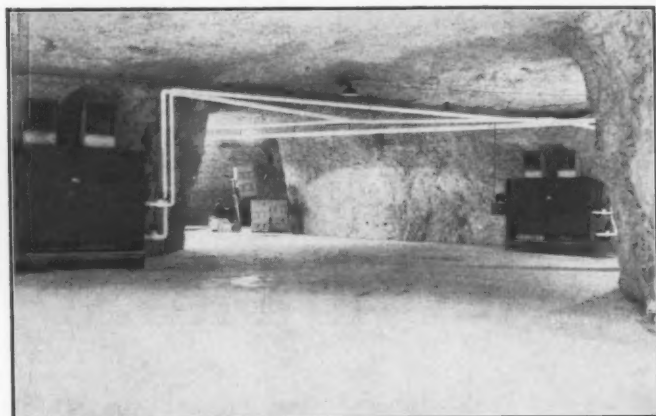
Float valve control is used in the brine coolers and on the gas-and-liquid cooler. Other control equipment includes thermostats, high- and low-pressure cutouts, purger, magnetic starters, and a delayed timing relay.

The compressor room, which immediately adjoins the office, is surrounded by thick stone walls.

Asphalt-enclosed Fiberglas board was used to partition off the low temperature portion of this installation. Made of glass fibers compressed and bonded and enclosed on all sides and edges with a durable asphalt coating, this insulating board was installed with a hot asphalt dip and secured by wooden skewers. This construction is highly resistant to moisture and vapor conditions encountered in low temperature service.

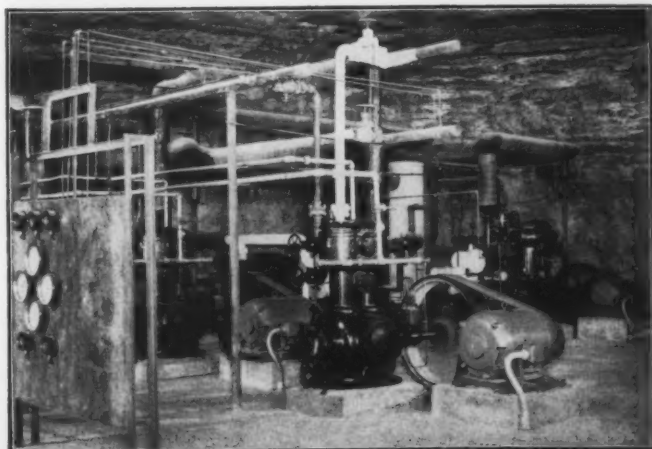
One of the more unusual aspects of this unique enterprise is that it paid for its own contribution by selling the rock excavated from the bluff through a subsidiary company for use in highway construction.

Here's the equipment which cools and distributes the air



UNIT AIR COOLERS like these—18 of them in all—refrigerate 1,400,000 cu. ft. of space in the Coldspur cavern. Each unit is equipped with 5-hp fan motors and deflecting vanes on the outlet elbows.

COMPRESSOR EQUIPMENT includes two 8 x 8 units and an 11½ x 8 booster compressor. Booster machine is driven by a 50-hp motor, while each 8 x 8 unit is powered by a 75-hp motor. A new 10 x 10 unit is on order.





S. E. "Papa" Teaff reminds his son, W. W., that the most effective way to sell commercial refrigeration equipment is to . . .

TREAT EACH CUSTOMER LIKE A GOOD FRIEND

We deliberately stay a step away from bigness, so that we can maintain a close personal relationship between our customers and ourselves."

That, in a nutshell, expresses the homespun business philosophy which has spelled success for S. E. Teaff and his son, W. W., in the operation of the commercial refrigeration dealership which they own in Houston, Tex.

"Bigness", of course, is a purely relative term. Last year the father-and-son Teaff organization did more than \$800,000 worth of business, and this year they confidently expect to top that figure. But they're still not

"big business" in the sense that they lose the all-important element of personal contact with the people who buy their equipment.

How effective is this policy of personal contact? Well, last year the Teaffs were involved in a total of 43 super market installations involving eight or more pieces of equipment. They lost three of these jobs—but they sold the other 40!

A glance at this rather impressive record might lead to the quick conclusion that the Teaffs are a bunch of high pressure operators. Nothing could be further from the truth. Rather, the Teaffs combine all of the most potent aspects of evangelism and

"politicking" all in one operation. They know every grocer and market owner by his first name, and they greet them all as "Brother Tony", "Brother Joe", or "Brother Pete", as the case might be.

With the Teaffs this isn't just an empty gesture. They just like people, and they are very sincere in their personal regard for the individuals with whom they deal.

As "Papa" Teaff puts it, "Our customers are always treated as our guests. We shy away from the 'blood and guts' methods of many 'big business' operations. Cold commercialism is not for us."

Let's look at a typical example of

how this type of relationship, completely devoid of high pressure selling, works out.

On a recent deal involving a few thousand dollars there was a tag end of \$85 on the total bill. The customer asked to have that tag end knocked off to bring the price down to an "even hundred" figure. Teaff steadfastly refused to make this concession, stoutly declaring, "We have made you the best deal we can. Our price has got to stand."

Free Lunch Clinches Sale

After a slight pause, the customer replied, "All right. Then I'll come down every Tuesday and let you buy me a rib roast lunch until we are even."

That was a deal. The Teaffs buy lunch for all of their customers whenever they visit the store. A neighborhood cafe features a rib roast every Tuesday, and Teaffs have done more to publicize this feature than has the cafe itself.

The elder Teaff makes a lot of "cold" calls. That is, he drops in frequently in places where he has not been invited but where he is always known and welcomed. These are simply good will visits, and he makes the most of them.

"If I see, for instance, that a market owner is busy with a grocery salesman," Teaff explains, "I simply signal the owner a swift 'hello' and get right out of there. I know that grocer has to give his time to that salesman *now*. He doesn't want to be bothered with me."

How to Win Friends

The grocery men appreciate this courtesy. They comment on it. The salesmen appreciate it. And they comment on it. As a result, they frequently pass sales leads along to the Teaffs. And this despite the fact that the Teaffs pay no commission to "bird dogs".

Trade-ins are handled by the Teaffs on the same basis of friendly realism with which they conduct the rest of their operations.

Whenever a customer comes in who is interested in buying some new equipment and has some old equipment to trade in, Teaff will write up the order on the spot, clearly indicating the amount that will be allowed for the used equipment. He



NO REFRIGERATED CASES are used in the air conditioned produce department of this Denver market, where the effect of this installation is to . . .

Cool the Room, Not the Produce

AIR condition fresh produce, don't refrigerate it. That's the somewhat unorthodox operating policy adopted by the Lakewood Market in Lakewood, Colo., when it built its popular and profitable new "Crisp Room."

Dispensing altogether with refrigerated self-service cases or other methods of refrigerating fresh produce on display, the management of this market decided instead to air condition the entire room in which the produce department was located.

This 20x96-foot room, walled with ceramic tile, is designed for straight-through traffic, with entrances at the rear and exits at the front. Both entrances, which connect the Crisp Room with the regular grocery section of this big supermarket, have been enclosed in walls of glass extending from floor to ceiling.

Temperature throughout the entire produce department now is maintained at 55-60 F by a 10-ton air conditioning unit provided with an over-powered blower which maintains rapid circulation of air throughout the entire department.

Customers are invariably surprised at the chilled atmosphere which greets them when they pass from the normal-temperature grocery department into the Crisp Room. Proof that the impression is favorable, however, lies in the fact that the store's produce sales have increased more than 40% since this installation was completed. Produce spoilage, on the other hand, has been cut from around 5% to less than one-half of 1% in this same period, reports Con Becker, head of the market.

The installation was made by Tolin Refrigeration Co., of Denver.

always leaves a carbon copy of this order with the customer so that he may examine it at his leisure and compare it with other bids competitive for which he undoubtedly will ask.

"We do this," says W. W., "to impress the prospect that we are anxious and willing to do business. The

general practice is to stall around—to haggle over the trade-in, trying to get an extra \$10 'break' one way or another.

"An extra \$10 is not going to make us or break us," Teaff points out. "We want our customers to receive all their old equipment is worth on a

Continued on page 76

about

PEOPLE

Harry Walker has been appointed Greater Kansas City territory sales representative for Mitchell Mfg. Co.



Walker will handle all Mitchell lines in the Kansas City area. He was formerly with Continental Electric Co. of Kansas City, having operated that company's branch office in Joplin, Mo.

Two major changes have occurred in the management of International Register Co. **Arthur H. Woodward** has been appointed chairman of the board of directors and **Ansel M. Kinney** has been promoted to the position of president. Woodward joined the company in 1895 and has been its president since 1898. Kinney, with the company since 1930, was formerly executive vice president.

Appointment of **Ted Nemes** as assistant manager of the air conditioning sales section has been announced today by F. F. Duggan, general sales manager in charge of appliances of Crosley Div., Avco Manufacturing Corp.



Nemes in his new responsibilities will report directly to J. L. Armstrong, manager of the air conditioning sales section, and will make his headquarters in Cincinnati. Before joining Crosley, Mr. Nemes was assistant sales manager of the Fedders-Quigan Corp. and has had extensive experience in the air conditioning field with other national manufacturers of this equipment.

Arnold B. Medbery has joined the products engineering department of Trane Co. Medbery will handle engineering standardization duties in the design and development of air conditioning and refrigeration products. For the past four years he has been with the Elliot Co. as development engineer in the blower division.

Erwin F. Bender, for many years manager of the New York office of Kinney Mfg. Co., has retired. Bender was active in the pump business all his business life and was associated with Kinney Mfg. Co. for 41 years.

Three appointments to sales positions in the firm have been recently



H. B. Phillips



F. A. Wright



J. M. Cook

announced by Cutler-Hammer, Inc. **H. B. Phillips** has been appointed sales manager, quality sales division, **F. A. Wright** has been named sales manager of district sales and **J. M. Cook** has been appointed sales manager of the industrial controls division. Phillips, who started with Cutler-Hammer in 1911, became the Milwaukee manager of appliance sales in 1925 and has since handled that division.

Wright joined Cutler-Hammer in 1927 as a student engineer and in 1945 he was named assistant general sales manager. His new duties include supervision of the company's sales offices and distributors. Cook started with the firm in 1928 as a member of the headquarters sales department. He has been manager of the San Francisco district sales office and plant since 1944.

E. Stephen Farlow has been appointed manager of the recently opened Baltimore, Md., sales office of Sterling Electric Motors, Inc. of Los Angeles, Calif. Farlow has had wide experience in the electrical field. The Baltimore territory formerly was handled by the Philadelphia office of the firm.

John H. Renninger has been appointed to the Wilmington, Del. sales office of Trane Co. Renninger was formerly a sales representative for the firm in the Philadelphia area, and an engineer with the company's fan and heating coil sales department.

Jack Canady has been appointed to the position of sales promotion manager for Palmer Mfg. Co., Phoenix, Ariz., manufacturer of evaporative coolers and heaters. With previous experience in the public relations and advertising field in California, Canady had been secretary-manager of the Appliance Merchandisers Association for the past two years.

Harold W. Schaefer has been appointed vice president of engineering in the refrigeration division of

Philco Corp. Since April, 1951 Schaefer has been director of refrigeration and range engineering and for the previous 15 months he had acted as special assistant to Leslie J. Woods, Philco's vice president of research and engineering.

Ansul Chemical Co. announces the appointment of **Paul R. Larimer** as general sales manager in charge of all four sales divisions—fire extinguisher, refrigeration, industrial chemicals and export. This is a new post created by the company to help supervise and coordinate the company's sales expansion. Larimer formerly supervised the company's government relations program and served as assistant sales manager of the fire extinguisher division.

C. L. Peterson has been appointed general sales manager of the Industrial Division of Minneapolis-Honeywell Regulator Co. Peterson has been regional manager for Honeywell's midwest region in Chicago since January, 1950. He succeeds W. H. Steinkamp.

Two sales appointments in the soda fountain division of Liquid Carbonic Corp. were recently announced by the company. **E. G. Borgel** has been transferred to the Cleveland, Ohio office of the firm. **John Feyen** has been appointed sales engineer for the soda fountain division of the company. Borgel, who will handle soda fountain equipment sales in the Cleveland area, joined the Liquid sales organization in 1933 and he has had jurisdiction over the northern Illinois territory as a soda fountain sales engineer since 1945. Feyen will now manage soda fountain sales in the northern Illinois area, exclusive of the Chicago metropolitan area. He has been associated with the sales department of Liquid since 1931.

Lou Levy has joined the sales staff of Lehigh Mfg. Co., of Lancaster, Pa., to take over the metropolitan New York territory for the company. At present Levy is located in Washington, D. C., but he will shortly move to New York to have headquarters in his sales area. Active in the refrigeration field for the past 20

years, Levy for the past six years has been associated with the Refrigeration Supply Co., Inc., of Washington, D. C. He is an international director of RSES and active in the Baltimore-Washington chapter.

Howard A. Small has been appointed as director of distribution for Tyler refrigerated food handling equipment in Canada. For some 20 years Small has been active in various phases of the refrigeration business in Canada. Small resigned as general manager of Universal Refrigeration Co. in Toronto, a position he held for the past five years, to take this appointment.

Research Products Corp., Madison, Wis., manufacturer of air filters for forced air furnaces and air conditioning units, has recently announced the addition of two new sales personnel, **Frank A. Sours** and **H. E. (Paul) Whelpley**. Sours has just returned

Continued on page 84

Insulation Wall Aids Cold Storage Expansion

A SOLID wall of insulation, properly weatherproofed, provides an ideal answer to the problem of possible future expansion faced by many cold storage warehouses.

A typical installation of this type was made at the Holly Cold Storage Fruit and Produce Co., Holly, N. Y., with the insulation being applied by mechanics of Armstrong Cork Co.'s contract service department.

Enlarging its holding facilities, this company constructed a new holding room approximately 130 feet long, 43 feet wide, and 22 feet high. The unusual part of this construction was that new masonry building walls were erected only on three sides of the room. The fourth wall, which faces in the direction of planned future expansion, was constructed of solid corkboard erected in two 4-inch layers.

This method of installation not only saves the original construction cost of one building wall but also permits easy expansion of facilities as future requirements demand. The solid corkboard wall is finished on both interior and exterior sides with two coats of portland cement plaster. Over the exterior plaster a single coat of

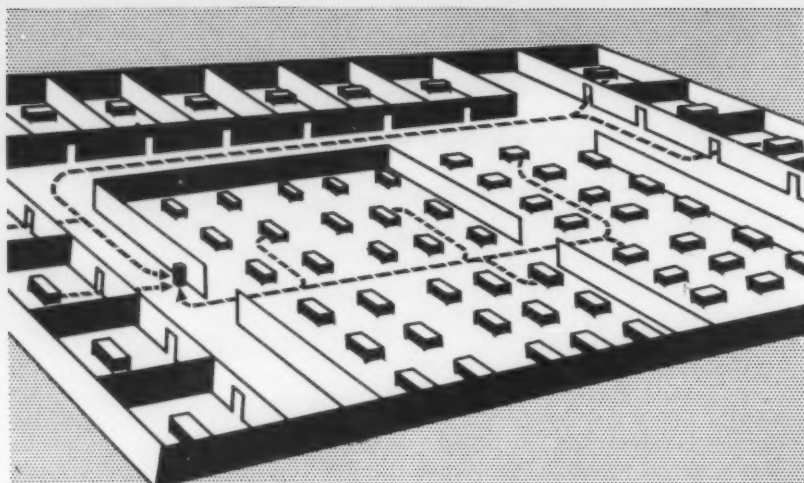
Armstrong's weatherproof plastic was troweled to a thickness of 1/8-inch to provide temporary weather protection.

When future expansion occurs, the solid insulation wall will simply become one of the interior walls of the new holding room.

If desired, the black appearance of the weatherproof plastic can then be brightened with an application of aluminum paint. In addition, when new facilities are added in the future, it will be relatively easy to cut through the solid corkboard wall to provide door openings for trucking aisles into the new structure.

Six inches of insulation was erected on walls and floor of the holding room. A total of 9 inches of insulation, erected in two layers, covers the roof area.

The exterior solid corkboard wall is reinforced both horizontally and vertically. Horizontally, steel reinforcement was used, due to the unusual wall height, and carries the entire length of the wall for additional support. To insure uniform thickness of insulation around the steel reinforcement, additional corkboard was applied on both inside and outside wall surfaces.



ONE LARGE COOLER serving this office space means that all 60 employees have to walk an average distance of 130 feet for a drink of water, resulting in wasted time and decreased office efficiency.

is
this



THE BEST WAY TO SELL

SHOW any good businessman how he can actually save money by buying your equipment, and your biggest sales battle is won. Little remains but to sharpen your pencil and write the order.

Take water coolers, for instance. If you could walk into the office of any tough, cost-minded office manager or purchasing agent and show him in black and white how he could, for example, save \$1780 merely by installing two more water coolers, wouldn't that pave the way to a pretty easy sale?

That's exactly what the "work center plan" devised by General Electric Co. for water cooler placement is designed to do. This plan provides a simple five-step method by which a water cooler salesman can analyze the drinking water requirements of any work center, plan the ideal locations for additional water coolers needed, and figure for the prospect the actual dollars which could be saved by the installation of these coolers through

the elimination of wasted man-hours.

The plan is designed to work equally well for checking the efficiency of existing drinking water facilities or selecting equipment for a new location.

In order to obtain a full understanding of the fundamental strategy underlying this simple but effective merchandising plan, let's first reconsider for a moment *why* and *how* your customer buys water coolers.

The *why* is easy. Water coolers today are generally recognized as essential equipment for offices, factories, and other types of business establishments.

During the past 20 years most of your customers and prospects have been pretty well sold on the so-called "water and health" story. Sanitary, cool drinking water has become accepted as a builder of employee health, efficiency, and morale.

The introduction of modern drinking water facilities into the business world has reduced absenteeism, cut

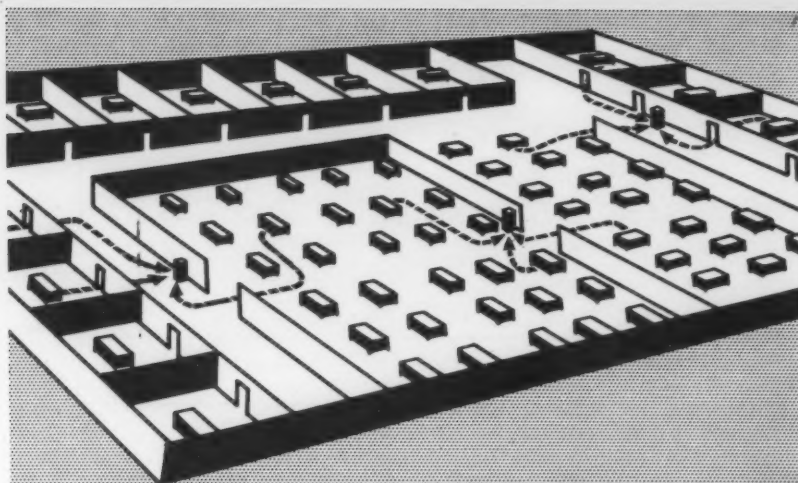
lengthy "coffee breaks" at nearby soda fountains or restaurants, and demonstrated employers' interest in the well-being of their employees. Even labor organizations now are becoming definite factors in influencing the acceptance of water coolers in those industries in which their members operate.

This acceptance certainly doesn't mean that you no longer need talk about the benefits of water coolers, but it does mean that this part of your selling job has become a lot easier.

Now let's examine *how* your customer buys water coolers. Basically, he has two decisions to make: the decision on the number and capacity of units, and the decision on which brand.

Presumably you, as a water cooler salesman, know your product story inside and out. No doubt you can cite chapter and verse on construction features, warranty, manufacturer's reputation, service and delivery, and price.

or
this



THREE SMALLER COOLERS installed in this same space according to the "work center plan" result in paring average travel distance per employee to 60 feet, saving both employee time and payroll dollars.

WATER COOLERS?*

But when it comes to helping your customer decide on the number and capacity of coolers he needs for any particular application, chances are you fall flat on your face.

After all, you're a salesman, not an engineer, so at this point you probably turn to the standard rating tables showing the number of gallons per hour normally required per person in installations of that type, and make your recommendations as to number and capacity of units strictly on that basis.

So it usually turns out that you recommend and your customer buys the fewest number of large-size water coolers that the area of the installation permits. If there are 80 people to be served in an office, you sell one 7-gallon model, not two 4-gallon models, and your customer thinks he has made the most economical purchase.

But right here is where you are cutting yourself out of some bonafide extra business, and where your customer is using false economy.

Right here is one place where this work center plan for water cooler placement really comes into its own. Right here is where you can use this plan effectively to boost your sales volume and save your customer money, all in one fell swoop.

When your customer has one large-size water cooler installed for a large number of his employees, it almost always means that most of these employees will have to walk relatively long distances to satisfy their thirst. These long walks can become surpris-

ingly expensive when considered in terms of all his employees over a full year.

The waste in productive time is staggering when you think of trip after trip, day after day, week after week, year after year. The work center plan is specifically designed to demonstrate graphically to your customer just how important the proper placement of water coolers is.

Take a look at the two office floor plans used to illustrate this article. You will notice that one of these lay-

***For the answer,**

please turn the page ►

... is the way which will make the most money for you *and* for your customer. The table below shows the amount of money your customer can save by buying a properly planned water cooler installation. And the extra units you sell in such an installation means more dollars in your pocket, too.

		DISTANCE IN FEET SAVED BY ADDITIONAL WATER COOLERS											
		10	20	30	40	50	60	70	80	90	100	150	200
PERSONS IN WORK CENTER	10	\$11	\$21	\$32	\$43	\$53	\$64	\$75	\$85	\$96	\$107	\$160	\$213
	20	21	43	64	85	107	128	150	171	192	213	320	426
	30	32	64	96	128	160	192	224	256	288	320	480	640
	40	43	85	128	171	213	256	298	341	384	426	640	853
	50	53	107	160	213	266	320	373	426	480	553	799	1066
	60	64	128	192	256	320	384	448	512	576	640	959	1279
	70	75	149	224	298	373	448	522	597	672	746	1119	1492
	80	85	171	256	341	426	512	597	682	768	853	1279	1706
	90	96	192	288	384	480	576	672	768	863	959	1439	1919
	100	107	213	320	426	533	640	746	853	959	1066	1599	2132
110	117	235	352	469	586	704	821	938	1055	1173	1759	2345	
120	128	256	384	512	640	768	895	1023	1151	1279	1919	2558	

feet, which makes a total of 4200 feet saved on each one-way trip. 4 round trips means 8 one-way trips, so multiply 4200 by 8 to get 33,600 feet saved per day. Based on 240 working days, this comes to 8,064,000 feet (or 1530 miles) a year. Dividing by an average walking speed of 18,000 feet per hour gives 448 hours. Multiply by an assumed hourly wage rate of \$1 for your answer—\$448 annual payroll savings.

Continued on page 74

NEWS OF THE INDUSTRY

AMERICAN POTASH BUYS ESTON FIRM

American Potash & Chemical Corp. has acquired Eston Chemicals, Inc., Los Angeles chemical manufacturer.

Acquisition of the Eston company, which becomes a division of American Potash & Chemical Corp., was accomplished by issuance of 22,837 shares of the latter's Class B stock in exchange for all of the outstanding capital stock of Eston, declared Peter Colefax, president of the purchasing company.

Eston manufactures agricultural chemicals, including insecticides and fumigants and also produces refrigerants, aerosols and industrial chemicals. Eston has established nation-wide distribution on its line of refrigerants which includes "Freon," methyl chloride, sulfur dioxide and the Charg-A-Can unit. Eston's sales totaled approximately \$1,400,000 in the first six months of 1952.

The Eston manufacturing facilities are located at Vernon, Calif., and the company also has a unit at Torrance which produces ethylene dibromide. For several years, Eston has been American Potash & Chemical Corp.'s principal customer for bromine.

Eston Chemicals will be operated as the "Eston Chemicals Division" of American Potash & Chemical Corp. Alfred M. Esberg, who has been head of the Eston Chemicals since 1934, has been named a vice-president of American Potash, and George S. Wheaton, formerly vice president of Eston, has been named assistant vice president.

Colefax said that the acquisition of Eston will accelerate the entrance of American Potash into new chemical fields. Eston research facilities will be consolidated into the new American Potash laboratory in Whittier.

COOL HANDLING OF HOT NEWS



COOL REPORTING of the news of the Republican and Democratic conventions was aided by the installation of window-type air conditioners in the press room of International News Service and International News Photo service in Chicago's International Amphitheatre. Actually two rooms, one a wire room 20 x 40 feet and the other a photo darkroom 20 feet square, the INS-INP headquarters were served by three Mitchell $\frac{3}{4}$ hp units, of which two were in the wire room, shown in the photo above. The rooms, set under the press stands on the floor of the convention hall, had no windows. Air conditioners were set into an interior wall with vents leading to a gangway passing along the outside of the press row. The units themselves were set on tables inside the rooms so that they didn't protrude into the gangway. The press rooms operated on a 24-hour daily schedule during both conventions.

NEW WESTINGHOUSE WARRANTY OPTIONAL

The Air Conditioning Division of Westinghouse Electric Corp. has announced an optional five-year warranty plan to cover the motor-compressor unit of self-contained air conditioners.

The plan will be available to customers at a small additional cost and will cover the motor-compressor unit of all Unitaires sold or installed on or after Feb. 12, 1952.

Under this new warranty Westinghouse will not only repair or replace any motor-compressor unit failing from inherent defects during the term of the warranty, but will make allowance for labor costs involved in its repair, as well as paying for shipping charges for repair or replacement parts.

The warranty plan will be sold by Westinghouse franchised air conditioning distributors and dealers.

McCray Purchases Palmer Mfg. Co.

McCray Refrigerator has recently purchased all of the outstanding stock of the Palmer Mfg. Co., Phoenix, Ariz., it is reported. According to the report, Henry M. Haase, president and general manager of McCray, has assumed the same duties with Palmer and has named Willis Clouse treasurer, Robert Abbott vice president, and Sara McCray Chandler secretary of that organization.

ASHVE SHOW SET FOR CHICAGO

The 11th annual International Heating and Ventilating Exposition will be held Jan. 26 to 30, 1953, in the International Amphitheatre, Chicago, under auspices of ASHVE. The 59th annual meeting of ASHVE will be held concurrently with the show.

PENDERGAST NEW NPA BRANCH CHIEF

T. A. Pendergast, director of sales of the Universal Cooler Division of Tecumseh products Co., will become chief of the Refrigeration and Packaging Equipment Branch of National Production Authority on Sept. 1.

A. Gordon Wootton has resigned as chief of the Refrigeration and Air Conditioning Section of NPA's General Industrial Equipment Division to join Seeger Refrigerator Co. This section, which comes immediately under the recently created section which Pendergast will head, will now be directed by James T. Tangeros.

Tangeros has been handling much of the detail work in processing CMP-4B applications from industry manufacturers, and so is familiar with their requirements.

Pendergast's services have been made available to the government for a six-month period. He succeeds Fred A. Weisenbach, whose term expires Sept. 1.

MAKING MITCHELL UNITS IN MEXICO

Mitchell Mfg. Co. has entered into a manufacturing agreement with the American Refrigerating Products Co., Mexico, D.F. providing for the manufacturing of Mitchell room air conditioners in Mexico.

Room air conditioners are now being manufactured by the new firm in Mexico City, and will be sold under the trade name, Mitchell-American.

NAT'L MARKET EQPT. IN NEW LOCATION

National Market Equipment Co., manufacturer of commercial frozen food cabinets, has moved to larger and more spacious quarters at 410 E. 5th St., Royal Oak, Mich.

1ST

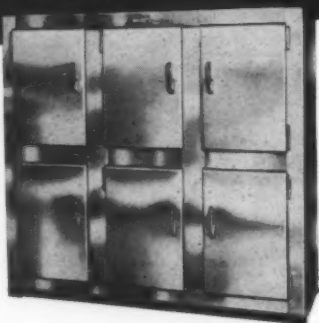
CHOICE OF
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STA-KOLD STAINLESS STEEL ALL-METAL CONSTRUCTED COMMERCIAL REFRIGERATORS

DEPENDABILITY
... LONG-LIFE

GREATER
CAPACITY
AT LOWER COST

SANITARY ...
VERMIN PROOF



MODEL RA-70-R

Available from 20 to 70 cu. ft. Remote

HERE'S IMPORTANT NEWS FOR YOU!

... if you are looking for a Commercial Refrigerator

Dealers and Consumers, across the nation, report that STA-KOLD Commercial Refrigerators cannot-be-beat for efficiency, economical operation, dependability and greater capacity. Cooling units specially designed for all STA-KOLD Refrigerators give increased cooling capacity. Spoilage and losses are eliminated. If you are losing money through faulty refrigeration... if you are in the market for a good, dependable refrigerator, reasonably priced, then see STA-KOLD... COMPARE... and YOU, too, will CHOOSE STA-KOLD.

CHOOSE FROM COMPLETE LINE OF STA-KOLD REFRIGERATORS

Models from 20 to 70 cu. ft.

Remote—Self-Contained and Pass-Through



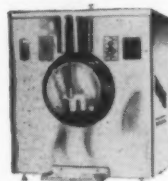
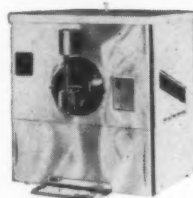
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Throughout The World

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Division of
VICTORY METAL MANUFACTURING
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WHAT YOUR FOUNTAIN CUSTOMERS NEED — SWEDEN MAKES!



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- Cream Freezing-Dispensing
- Equipment Ever Offered

- There's a SWEDEN Speed Freezer to meet *every* need, *every* budget:

- Table and floor models.
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- Double head machines for variety of products, or continuous service of a single product.
- Single and double heads. Sizes from 4-quart to 5-gal. Batch, continuous and automatic continuous freezers.
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- Sturdy construction, and accessibility of all parts for quick easy cleaning are standard SWEDEN features.

- Dispensing soft ice cream, frozen custards, malts and shakes and other long-profit specialties with amazing speed
- ... a SWEDEN gives more service, requires *less* servicing. Pays for itself out of EXTRA profits!

For more information,
write today to:

SWEDEN SPEED FREEZERS

"the
FOUNTAIN
FREEZER"

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Air Conditioning Equipment and Components and Accessories for Air Conditioning and Commercial Refrigeration Equipment: Quantity and Value of Shipments, by Class of Product, 1947-1951

(Value figures in thousand of dollars)

Class of product	1951		1950*		1949		1948		1947	
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value
Condensing units, total.....	840,176	\$75,672	885,913	\$75,833	610,841	\$53,584	841,609	\$73,443	1,039,772	\$8,296
Ammonia refrigerants	240	404	245	352	254	346	1,129	1,799	1,646	2,107
Refrigerants except ammonia, total	839,936	75,268	885,668	75,481	610,087	53,188	840,480	71,644	973,092	90,224
Air-cooled	796,303	58,624	835,239	59,035	570,280	40,127	797,098	56,829	924,553	73,742
Water-cooled	43,633	16,644	50,429	16,446	39,807	13,061	43,382	14,815	48,540	16,482
Condensing units, not reported by type .....	...	...	...	...	...	...	...	...	65,033	5,965
Compressors and compressor units, total	1,051,937	56,669	954,368	46,977	604,431	29,929	459,390	33,493	n.a.	34,586
Ammonia refrigerants	2,401	6,465	2,652	6,756	2,240	5,620	4,156	9,209	4,415	9,481
Refrigerant except ammonia	1,049,536	50,204	951,716	40,221	602,191	24,309	455,234	24,284	313,682	20,148
Compressors and compressor units, not reported by type .....	...	...	...	...	...	...	...	...	n.a.	4,957
Heat-exchanger equipment, total .....	...	65,077	...	61,337	...	40,925	...	48,552	...	63,625
Evaporative condensers	6,216	8,652	7,818	8,869	4,798	5,850	5,560	7,505	n.a.	7,875
Unit coolers, total	121,981	27,296	133,300	24,583	95,850	15,707	102,825	17,874	n.a.	20,167
Air-conditioning	33,263	14,636	29,704	11,671	30,044	7,997	21,633	8,276	n.a.	6,298
Refrigeration	88,718	12,660	103,596	12,917	65,806	7,710	81,192	9,598	n.a.	13,959
Other heat-exchanger equipment .....	...	29,129	...	27,880	...	19,368	...	23,173	...	28,246
Heat-exchanger equipment, not reported by type .....	...	...	...	...	...	...	...	...	...	6,737
Self-contained air-conditioning units, total	282,488	93,573	257,263	86,913	123,709	50,584	111,620	49,008	74,976	59,509
Window-sill type	228,964	42,442	187,224	31,373	78,454	14,425	(1)	(1)	(1)	(1)
Other than window-sill type	53,524	51,131	70,039	55,540	45,255	36,159	(1)	(1)	(1)	(1)
Other refrigeration and air-conditioning equipment, total .....	...	36,537	...	n.a.	...	n.a.	...	n.a.	...	n.a.
Centrifugal refrigeration systems	441	15,300	382	12,249	285	8,189	361	10,351	313	7,814
Ice-making machines	12,998	8,804	14,914	8,907	6,902	4,641	5,947	5,266	7,822	3,122
Refrigeration chassis for air-conditioning .....	...	5,863	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Year-round air conditioners (self-contained, except heat pumps) .....	...	...	...	...	...	...	...	...	...	...
Mechanical dehumidifier, refrigeration type	75,659	4,731	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Absorption and absorption tion systems and equipment	138	1,839	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

*Revised.

n.a. Not available.

¹Withheld to avoid disclosing figures of individual companies.

* * *

1951 SHIPMENTS HIT NEW PEAK

Shipments of components and accessories for air conditioning and commercial refrigeration equipment set a new high mark in 1951 with a total dollar volume of \$213 million, at manufacturers' prices, according to the Bureau of the Census, U. S. Department of Commerce.

Previous high mark was set in 1947, when manufacturers' shipments amounted to \$204 million. The 1951 shipments were up 8% over those for 1950, which were valued at \$196 million.

Shipments of condensing units in 1951 totaled 840,000, valued at \$76 million, the same as 1950 in terms of dollar volume, but a drop of 46,000 in number of units. A total of 1,052,000 compressors and compressor units, valued at \$57 million, were shipped in 1951. This represents an increase of 10% in number

of units and 21% in value compared with 1950.

The value of heat-exchanger equipment shipped in 1951 amounted to \$65 million, an increase of 6% over the previous year, and shipments of centrifugal refrigeration systems, at \$15.3 million, showed a 25% gain over 1950.

Self-contained air conditioning unit shipments were also up, totaling 282,488 units valued at \$94 million. This was a gain of 10% in number and an 8% increase in dollar value over 1950. The gain was registered in the window-type air conditioner field, other self-contained units showing a drop in 1951.

Mechanical dehumidifiers, refrigeration type, listed for the first time in the 1951 summary, showed factory shipments of 75,659 units, valued at \$4,731,000. Also listed for the first time were absorption and ad-

sorption systems and equipment, with shipments of 138 and value of \$1,839,000, and refrigeration chassis for air conditioning and year-round air conditioners, self-contained, except heat pumps. Shipments of this type of equipment were valued at \$5,863,000.

NICKEL-STEEL FOR CONTROL USE SHORT

No allotments of nickel-bearing stainless steel are available for fourth quarter issuance to make nonmilitary automatic temperature controls, the National Production Authority told controls makers at a recent meeting. This marks the first quarter such allotments have not been made.

The Automatic Temperature Controls Industry Advisory Committee, meeting for the first time, heard NPA explain that while the U. S. nickel supply is increasing, the military de-

mand (including the jet engine and atomic energy programs) is outpacing the increase. An imbalancing factor is the increase from 10% to close to 14% of the average nickel content in stainless steels required for defense and defense-supporting production.

However, a promising substitute has been developed, NPA disclosed, in the form of a chrome manganese alloy containing less than 1% nickel. If the steel strike had not intervened this manganese alloy would have been commercially available in the fall, officials said. Automatic temperature controls made by the industry are for use in industrial process instruments, air conditioning equipment, space heaters, gas and oil burners and such domestic and commercial machinery as refrigerators, dishwashers, ranges, washing machines, and dryers.

WHY are more dealers switching to FOGEL?



Get the Facts . . .

✓ A Complete Line—Sell Every Prospect

You can meet every need of every prospect without hop-scotching from one line to another.

✓ Exclusive Models That Are Door Openers

Designed for space-cramped neighborhood stores where competitive models can't fit. Eliminates "cut-throat" competition. Fastest profit-making food merchandisers on the market.

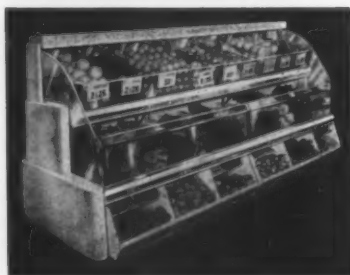
✓ Protected Territory

The Fogel franchise protects the sales efforts of the dealer who does a reasonable selling job. No purchase commitments required.

✓ Competitive Prices—Generous Discounts

Two big factors that help you close more sales and make more profit.

Get the Profits . . .



"VEGMART"
COMBINATION
PRODUCE
MERCHANDISER

Three-deck combination produce case; refrigerated middle deck for produce; fruit display on top deck; potato-onion bins below. Complete "superette" produce department in one case.

"ANGLE-VISION"
COUNTER TOP
FREEZER

Turns unprofitable "under - counter" space into a money-maker. Produces impulse sales at check-out time. Users report up to 200% increase in frozen food sales.



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FOGEL REFRIGERATOR CO.

Manufacturers of Quality Commercial Refrigeration Since 1899

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58

REMINGTON MEN MEET



PARTICIPATING in the Remington mid-summer sales conference were (seated, l. to r.) R. Johnson, military sales specialist; M. L. Judd, general sales manager; Herbert L. Laube, president; W. H. Moler, Dallas; M. Mark Watkins, vice president on director; E. M. Johnson, Philadelphia. Standing (l. to r.) F. Grott, Chicago; C. K. Juno, advertising manager; M. M. Becker, service manager; L. C. Zicarelli, Jacksonville; W. H. Peters, New York City; R. E. Hudson, St. Louis; L. Dunlevy, Omaha; L. Bonhotel, service dept.; and Fred S. Stidfole, vice president of manufacturing.

NORGE HEAT PLANS AIR CONDITIONING

A plan to move the offices of Norge Heat Division, Borg-Warner Corp. from Detroit to Kalamazoo, Mich. on August 1, has been announced by C. S. Davis, Jr., its president.

The Norge Heat Division is presently marketing a full line of domestic heating equipment. In addition, however, the company has planned to expand activities in the plumbing and air-conditioning field as well.

ident; W. T. Clarke, Baltimore, second vice president; R. L. Dillard, Laurel, Md., secretary; and E. W. Gasser, Washington, treasurer.

Directors are S. K. Carter and L. S. Levy of Washington. M. G. Horwitz, of Real Estate Refrigeration, Washington, is director of public relations, and C. B. Collins, Washington, is general counsel.

Association offices are located at 3531 14th St., N. W. Washington, D. C.

NEW INDUSTRY ASSN. FORMED IN CAPITAL

Two chapters of the recently-organized Refrigeration Trade Association of America (RTA) are now in operation, it was announced recently. The chapters are in Washington, D. C. and Baltimore, Md.

RTA was organized in Washington last May by issuance of a charter described as "national in scope", and with one of its objectives "the betterment of the position of the contractor and mechanic in the refrigeration industry, and through this, the establishment of trade recognition".

National president of the association is C. W. Phillips of the National Bureau of Standards. Other officers include R. H. Packett, National Appliance Service, Washington, first vice pres-

STRONG IS ELECTED RISAC CHAIRMAN

Henry G. Strong has been elected chairman of the Refrigeration Industry Safety Advisory Committee (RISAC). Edward L. Hart became vice chairman, and Robert L. Williams was re-elected treasurer. The new chairman succeeds L. W. Larsen, sales manager, Refrigeration Division, Tecumseh Products Co.

Strong is manager of Transportation Sales and Code Representative with Carrier Corp. He was formerly vice chairman of RISAC.

Edward L. Hart, the new vice chairman, has been executive engineer with the government and industrial engineering section of Philco since 1951.

Robert L. Williams, treasurer, is refrigerant sales manager of the Kline Chemicals Division.

PAR COMPRESSOR DIVISION SOLD TO LEHIGH MFG. CO.

Joint announcement has just been made to the wholesale refrigeration trade by the management of Lynch Corp. and Lehigh Mfg. Co. of the sale of the Par Compressor Division to Lehigh, manufacturers of Lehigh "Blu-Cold" condensing units and systems.

F. K. Zimmerman, president, and R. L. Sears, vice president of Lynch Corp., have issued the following statement to Par refrigeration wholesalers:

"It is with mixed emotions that we announce the sale of our refrigeration condensing unit business, because this sale will take us out of contact with the many business and personal friends with whom we have worked so closely for so many years. However, it will put us in a position to devote our time and energies to our rapidly expanding air compressor, packaging machine and glass machinery business.

"Our refrigeration condensing unit business has been sold to Lehigh Mfg. Co., Division of Lehigh Foundries, Inc., with whom most of our customers are acquainted, and who have made a real place for themselves in the refrigeration industry.

"Lehigh has assumed the obligation of our one year warranty and will continue to carry stocks of parts for Par refrigeration condensing units and compressors now in use.

"While the transfer of inventories is going on now, and will be completed at the earliest possible moment, we believe you will be best served if you will follow these suggestions. Send orders for all complete condensing units and compressors and parts to Lehigh Mfg. Co., Lancaster, Pa. All unfilled orders for units will be turned over to Lehigh and we urge that you send them authority to fill these orders.

"All of our records are being turned over to Lehigh so all compressor serial cards which identify units and compressor sold by Lynch from the beginning of the Par condensing unit and compressor business are in the hands of Lehigh Mfg. Co. Service Department. Please refer everything pertaining to units and compressor serial numbers to Lehigh.

Concurrent with the letter from Lynch Corp. to Par wholesalers, Frank E. Shumann, president of Lehigh Mfg. Division of Lehigh Found-

ries, Inc., addressed the following letter to all Par wholesalers:

"In the past years of being a competitor of the Lynch Corporation we have come to have a great deal of regard for their friendliness in business. We know that you, too, must feel a great deal of this spirit reflected in your past business relationship with them. We hope that we can continue to take care of your condensing unit requirements and Par spare parts in the same manner as before.

"We feel that this merger is of

sound common sense. Our lines parallel, and with the addition of defrost and Truck refrigeration systems, we can offer you a more complete selling line. We feel that this move will enable us to give you, our customer, additional service above what either Par or Lehigh could give you as individual companies."

Although Lehigh is assuming all existing one-year warranties on Par open type units, it is stated that Lynch Corp. in Toledo will continue to handle warranty and parts service on all Parmetics and Par hermetics.

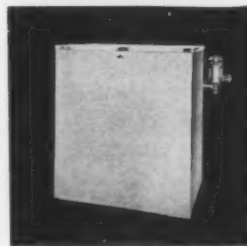
For Recognized Quality - Extra Gallons

Sell Your Condensing Unit

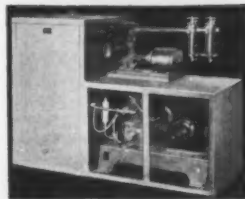
- Filtrine Water Coolers



Mess Hall-Cafeteria Cooler



Photographic-X-ray Cooler



Typical "Packaged" Circulating Chilled Water System

Sell your condensing unit with remote models for new and replacement jobs—all applications. Capacities 10—1000 g.p.h.; storage 7—300 gals. Filters, Rectifier-Dechlorinators available for all sizes.



Promote your own condensing unit sales with Filtrine's 20-year-life construction . . . high capacity . . . Super Storage . . . more than 40 years' dependability.

COOLERS FOR MESS HALLS — CAFETERIAS

Conform with Fed. Spec. 00-C-566b

COOLERS FOR X-RAY & PHOTOGRAPHY

PACKAGED CIRCULATING CHILLED WATER SYSTEMS

REMOTE COOLERS FOR ALL USES

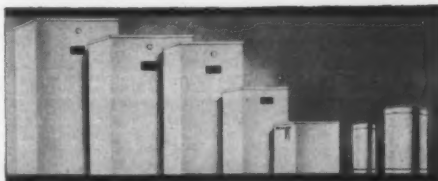
Sell your condensing unit with Filtrine Stainless Steel or Duco finished cabinets, equipped to suit with top/side shelves, bubblers, glass-fillers. Can be Taste-Master equipped to remove chlorine, rust, sediment from water.



Taste-Master

Sell your condensing unit with Filtrine models repeatedly named by V.A., Signal Corps, Air Force, etc. for X-ray, and photo-labs. Under counter design and floor-mounted models with stainless steel work-table top. Filters (extra) to prevent scratched and pin-holed negatives.

Sell your condensing unit! Systems for drinking or processing water—completely packaged with pump, controls, your condensing unit factory installed. Capacities 5—400 g.p.h.; storage 5—150 gals. Filters and Rectifier-Dechlorinators (extra) to insure taste-free, sparkling water.



Remote Model Coolers

Write for Catalog and Specification Guide

FILTRINE MANUFACTURING COMPANY • BROOKLYN 5 • N. Y.

"Water Coolers and Filters for 40 Years"

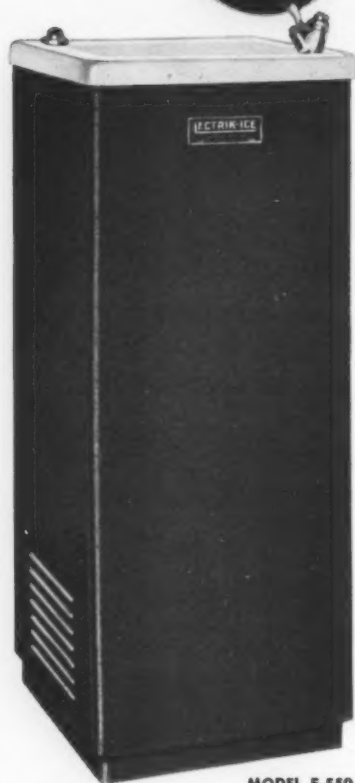
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... here's your **EXTRA**
PROFIT line of
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**WATER
COOLERS**

YOUR
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\$129.00



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UNIFLOW offers a Complete line of
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for dealers EXTRA PROFITS and Cust-
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BULLETINS • BOOKLETS • CATALOGS

The publications listed below are available to readers without charge. Simply circle on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

ALL THE INFORMATION YOU NEED for the application of "Foamglas" cellular glass insulation to low temperature installations is included in this 16-page booklet published by Pittsburgh Corning Corp. Many new methods for applying this material to ceilings, walls, floors, columns, and beams are discussed in detail and illustrated. A full-page table lists recommended adhesives, sealers, finishes, paints and accessories.

Circle No. 110 on Reader Service Card for more information

NEED FOR WATER CONSERVATION is the keynote of this specification booklet on Vogt condenser towers for condensing refrigerants. Applications and advantages of these units are discussed, and features are outlined at length. Typical assembly sketches are included and operating costs are compared with those of evaporative condensers and multitube condensers. Available from Henry Vogt Co.

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COIL SELECTIONS can be made simply, accurately, and in a matter of seconds, from a single chart, using the "Sicro-matic" chart and rule offered to architects, designers, engineers, and contractors by Marlo Coil Co. This combination permits instant determinations of coil face area, air velocities, number of tube rows, required dry bulb depression, wet bulb depression, and water velocity for air conditioning applications of water or direct expansion coils.

Circle No. 112 on Reader Service Card for more information

CONTRACTORS, ENGINEERS, ARCHITECTS, and others needing information on packaged cooling towers for small tonnage commercial, industrial, or residential application will be interested in this new bulletin (401-B) covering the "Flow-Cold" towers produced by Acme Industries, Inc. View of a cut-away model illustrates the various parts of the units. Complete ratings and specifications are provided.

Circle No. 113 on Reader Service Card for more information

QUICK INFORMATION on all precision instruments manufactured by Associated Research, Inc. is contained in this bulletin (10A) which gives basic data on instruments for electrical resistance testing, ground resistance testing, hypothetical dielectric strength testing, and other specialized purposes.

Circle No. 114 on Reader Service Card for more information

DATA FOR BRAZING shapes, sheet, castings, tubing, and assemblies of copper, brass, steel, aluminum, and cast iron for application in the refrigeration, air conditioning, and other service trades is contained in the new 16-page brazing manual issued by All-State Welding Alloys, Inc.

Circle No. 115 on Reader Service Card for more information

Continued on page 62

Paul Rose, North Carolina Refrigeration Contractor reports:

ROANOKE REPEATS!

PAUL ROSE REFRIGERATION SALES AND SERVICE
GOLDSBORO, N. CAROLINA

May 8, 1952

Nash-Kelvinator Corporation
14250 Plymouth Road
Detroit 32, Michigan

Gentlemen:

During the past several years I have been using Kelvinator compressors obtained through Carolina Sales Corp., Greenville, for replacements on many different makes of refrigeration units with excellent results.

I originally chose Kelvinator compressors because of the wide range of available sizes and capacities, which permits selection of just the right size for most applications -- plus their reputation for trouble-free operation, long life and ease of service.

Roanoke Lockers, Inc. of Williamston were so completely satisfied with three 5-H.P. Kelvinator compressor replacements on their original installation that they purchased three additional 5-H.P. Kelvinator condensing units (shown in attached photo) to take care of their expanded facilities.

Yours very truly,

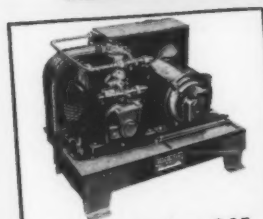
Paul Rose

Paul Rose
PAUL ROSE REFRIGERATION SALES & SERVICE

Roanoke Lockers chose three 5-H.P. Kelvinator units for their newly-expanded locker plant . . . complete satisfaction with performance of Kelvinator replacement compressors influenced their choice!



Paul Rose, Service Engineer, with three new Kelvinator 5-H.P. units installed for Roanoke Lockers, Inc. Quiet operation, slow speed, efficient units bring repeat business.



See the selection of 15 Kelvinator open type models, up to and including 5 H.P.



A. C. Wullenauber, owner of Roanoke Lockers, Inc. and George Tew of Rose Refrigeration at entrance of newly expanded locker plant.

Profit Today . . . Build for Tomorrow with

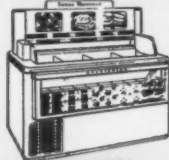
Kelvinator

Division of Nash-Kelvinator Corp., Detroit 32, Michigan

The Name that Sells . . . The Name that Satisfies!



KELVINATOR BEVERAGE COOLERS



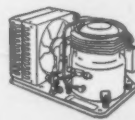
KELVINATOR FROZEN FOOD MERCHANDISERS



KELVINATOR WATER COOLERS



KELVINATOR ICE CREAM CABINETS



KELVINATOR SEALED CONDENSING UNITS (up to and including 1/2 H.P.)

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and AIR CONDITIONING • SEPTEMBER, 1952.

"Prove the Need and the Sale Takes Care of Itself!"

FOR ACCURATE INFORMATION ON
RELATIVE HUMIDITY and
TEMPERATURE...RELY ON

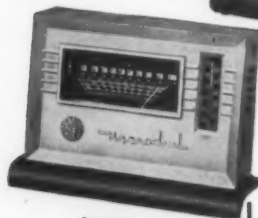
Bendix- Friez

When your customers see the facts and figures, your selling job virtually disappears. With precision-made, dependable Bendix-Friez instruments you can demonstrate with on-the-spot readings or recordings exactly how much and where your customers need temperature and humidity control for maximum comfort in the home, maximum efficiency in industrial operations. Bendix-Friez instruments are built to U. S. Weather Bureau standards by the world's oldest and largest manufacturer of fine meteorological equipment. Write for complete information.

BENDIX-FRIEZ MODEL 160

Portable Humidity and
Temperature Recorder

3" x 5" charts, 10 or 30
hour records. Modern design... handy for small space and difficult locations... built to meet unusual conditions.



BENDIX-FRIEZ

Hygro-dial

Precision Humidity and Temperature Indicator

Half-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 6" wide, 2 1/2" deep—desk or wall mounting.

FRIEZ INSTRUMENT DIVISION OF

1340 Taylor Avenue
Baltimore 4, Maryland



Export Sales: Bendix International Division
72 Fifth Avenue, New York 11, N.Y.

Circle No. 42 on Reader Service Card

LIQUID STAINLESS STEEL which is composed of actual microscopic stainless steel flakes combined with vinyl plastics to form a quick drying liquid to give a surface of actual stainless steel in coating form to protect against rust and corrosion is described in this bulletin available from Slip-On, Inc. Detailed information is given on test results and other technical data.

Circle No. 116 on Reader Service Card for more information

TYPICAL TEMPERATURE PERFORMANCE DATA, in chart form, is a feature of the new 8-page bulletin (47-A) issued by the water cooling division of Binks Mfg. Co. to describe three models of its line of mechanical draft cooling towers. A selection table for air conditioning and related applications also is included. Complete specifications of each model are given and a cut-away blueprint shows construction features.

Circle No. 117 on Reader Service Card for more information

OVER 100 CASE HISTORIES of outstanding applications of "Life-Line" motors are depicted in a new 35-page booklet (B-4769) available from Westinghouse Electric Corp. Most of the histories are illustrated, either with photographs or sketches, and each gives the particular application problems involved, motor choice for the job, and the results. The case histories cover a wide variety of industries.

Circle No. 118 on Reader Service Card for more information

SOLVING THE PROBLEM of mechanical remote control is the subject of a new bulletin (Catalog 300) describing the operation and use of "Teleflex" controls for such refrigeration and air conditioning applications as controlling dampers, switches, and valves. Both a general description and information on a specific application is provided. Available from Teleflex, Inc.

Circle No. 119 on Reader Service Card for more information

WANT TO MINIMIZE YOUR SERVICE PROBLEMS and cut your service costs? Catalog No. 17 just issued by Wagner Tool & Supply Corp. is aimed at doing just that, by representing a complete line of parts and tools that will eliminate many of a serviceman's troubles. Each item is assigned its own specific number to facilitate ordering.

Circle No. 120 on Reader Service Card for more information

LOOKING FOR LIGHT WEIGHT INSULATION? Then you'll be interested in this catalog insert covering the widespread applications of "Vitron" featherweight insulating wool. Details of both thermal and acoustical performance are presented in tabular form. Composition of this glass fiber insulating material and the methods employed in its fabrication are discussed briefly. Available from Glass Fibers, Inc.

Circle No. 121 on Reader Service Card for more information

CHOOSING THE RIGHT TYPE and capacity of ventilating equipment for any application and requirement is made a lot easier by the new selector guide made available by Bayley Blower Co. For the benefit of contractors, building engineers, and architects, this bulletin contains a new and different style of capacity table in which all essential figures have been condensed into a single tabulation.

Circle No. 122 on Reader Service Card for more information

TECHNICAL INFORMATION, specifications, and other data on the Reycoy line of freeze-proof water coolers is contained in a bulletin (0-52) issued by Refrigeration Economics Co. The Reycoy line of ceiling diffuser unit coolers is covered in Bulletin P-52.

Circle No. 123 on Reader Service Card for more information

NEW

PRODUCTS

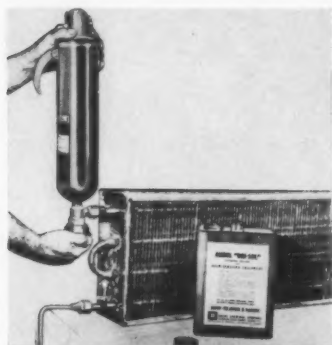
For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

Coil Flusher

Product: "Dri-Sol" gun mechanical refrigeration coil flusher.

Manufacturer: Ansul Chemical Co., Marinette, Wis.

Features: "Dri-Sol" gun forces



Ansul Dri-Sol solvent through lines and coils under pressure up to 500 lb. New solvent is said to be non-toxic, non-flammable at temperatures below 130 F and readily attracts moisture. Tests by Ansul Research show that new solvent will effectively dissolve sludges, wax deposits and other foreign material. Solvent is recommended by Freon and methyl chloride systems. Capacity of gun is 3 pints of solvent; gun is approximately 3½" in diameter, 21¼" high and weighs 10 lb. fully charged. Pressurized by 2 oz. replaceable CO₂ cylinder. List price \$27.70 delivered. Circle No. 131 on Reader Service Card

Liquid Chiller

Product: New liquid chiller for commercial and industrial applications.

Manufacturer: Brunner Mfg. Co., Utica, N. Y.

Features: New unit is ice builder as well as chiller, building up ice during low requirement periods for use during peak load demands. Interior of cabinet is lined with copper,

with copper plates and copper coils used throughout to eliminate corrosion. 16 gauge galvanized steel (aluminum optional) is used for cabinet exterior, with aluminum doors and 4" cork insulation. Liquids may be chilled by passing through the chiller cabinet itself, or by secondary circulation of chilled water piped from the unit. Each plate in chiller indi-



dually refrigerated, as well as front and back walls of cabinet. Mixing chamber pre-cools liquid and passes it back and forth across chiller plates and ice filled passes. Direction of liquid is reversed about every 3 feet with total travel of 60 lineal ft. throughout cycle. Units powered by Brunner open-type condensing units. Models ¼ to 7½ hp assembled at factory, larger models have separate chiller cabinet and refrigeration unit. Capacities range from 347 to 4960 lbs. of usable ice daily. Applications include dairies, bottling plants, bakeries, industrial plants, comfort cooling.

Circle No. 132 on Readers Service Card

Frozen Food Cabinet

Product: Frozen food display cabinet.

Manufacturer: Bailey & Perkins Co., Utica, Mich.

Features: New GF-1579, 15 cu. ft. frozen display cabinet has eye-level price panel, 4-pane Thermopane glass front, full-length mirror and snap-on defrosters. No defrost mess, just slip off defrosters, rinse, snap back in place. Five refrigerated di-

vider plates maintain sub-zero temperature throughout entire storage area. Visual front and side air shields. Fluorescent lighting. Self-contained condensing unit makes cabinet portable. Complete vapor seal minimizes temperature transfer, insures long life and low operating cost. Welded steel construction with



added advantages of rust-proof aluminum liner offers better thermal conductivity and no paint to chip off. Refrigerant carried in copper tubing with positive contact to liner surfaces. Self-contained condensing unit permits moving cabinet at will. Unit slides out front for convenient servicing.

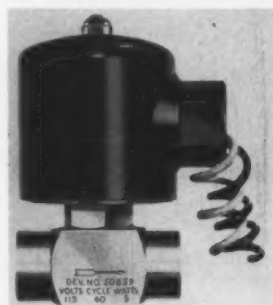
Circle No. 133 on Readers Service Card

Solenoid Valve

Product: New Model 67 solenoid valve.

Manufacturer: A-P Controls Corp., Milwaukee.

Features: Designed for unusually



wide range of industrial applications, unit is offered in two body styles and with two types of needle and seat construction. Where positive seal-off required, valve is furnished with synthetic resilient disk-type needle, seating against stainless steel orifice. This provides bubble-tight operation under most critical conditions. For other applications valve is furnished with stainless steel needle in combination with high-strength corrosion stainless steel valve seat. Design prevents

"ovaling" and wire-drawing of seat, even after long period of continuous operation. Available in $\frac{3}{8}$ " female pipe or $\frac{1}{2}$ " O.D. tube sweat connections, valve can be used for air, oil, water, gasoline, alcohol, detergents, refrigerants, butane, propane or other non-corrosive liquids and gases. Capacity on water 78 gph and on refrigerant applications 1 ton Freon 12. Working pressure up to 300 psi. Operating differential: liquid lift up to 130 psi, air and gases 250 psi, refrigerants 200 psi.

Circle No. 134 on Reader Service Card

Ice Cream Case

Product: Model OZ8R self-service ice cream display case.

Manufacturer: Friedrich Refrigerators, Inc., San Antonio, Tex.

Features: Has special features designed to interest grocery, drug, confectionery, dairy stores retailing ice cream in volume. Stores and displays more than 80 gallons of ice cream—646 round pint containers. Maintains sub-zero temperatures on top of the displayed ice cream. Automatic defrosting by means of "no frost" valve, requires no brushing of



frosted plates. Display space is full length shelf unobstructed by frosting plates. Exterior finish of white acid-resistant porcelain enamel, polished stainless steel trim and stainless steel guard rail. Three-inch price tag molding below full-length $\frac{1}{4}$ " plate glass mirror. Natural-color "Coolite" lighting. Ends of case removable for continuous line-up display.

Circle No. 135 on Reader Service Card



V-510
Self-Service Case
with Sliding Mirrors



V-10
Extra Wide Self-Service Case



CC-120 CrispyCold Enclosed Vegetable Case



V-9
Dairy Case



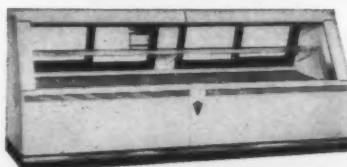
Many other models and designs, not illustrated, also available.

VIKING REFRIGERATORS, INC.

7500 Wilson Ave., Kansas City 3, Mo

for more information Circle No. 43 on Reader Service Card

V-6 Double Duty Meat Case



Meet Customer Needs —
and Profit ...
with the
Complete VIKING Line
of Quality
Refrigeration Equipment

Here's why customers buy... and you sell... more Viking Equipment ... with more ease and satisfaction:

- (1) Sizes and styles to meet all requirements for packaged meats, fruits and vegetables, frozen foods and dairy products.
- (2) Longer-life construction... no servicing headaches.
- (3) Easy installation.
- (4) Modern, attractive design for sales-building display.
- (5) Bigger display areas.
- (6) Economical operation... Norsair® cooling or gravity coils.
- (7) Every product rigidly tested for quality and performance.

Yes, Viking Equipment sells... and stays sold!

Viking Franchises Available
in a Few Select Territories
WRITE TODAY
for Complete Information

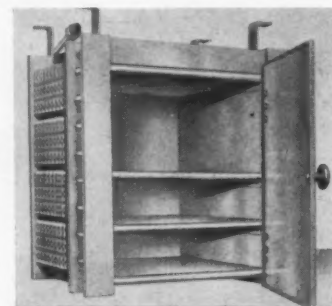
*U. S. Pat. No. 2,466,280

Ice Makers

Product: New line of aluminum ice makers.

Manufacturer: Tenney Engineering, Inc., Newark, N. J.

Features: Shelves are totally enclosed; ice-making tubing is bonded between aluminum sheets which make



up the shelves. Under sheet is spot welded on pre-formed dimples to upper sheet to hold tubing in place. Copper refrigeration tubing is tin-plated to prevent copper-aluminum electrolysis. Ice makers are available with or without frozen food compartment, with or without doors, and with or without side-mounted "booster coils" for cooling surrounding space. Tine-plate of booster coils matches aluminum of cabinet, contributing to appearance of unit. Unit can be installed in any unit designed to produce ice cubes—either original factory equipment of for replacement installation. Unit freezes water to ice in 120 minutes or less and is available in 48 different models.

Circle No. 136 on Reader Service Card

Ice Cube Crusher

Product: Model A "Kwik Kube Krusher."

Manufacturer: Gary Mfg. Co., Los Angeles, Calif.

Features: Specially designed to crush ice cubes to snow or small



pieces in restaurants, clubs, cafes, hotels, taverns, drug stores, etc. Capacity is over 30 lb. per minute. Made of sturdy aluminum casting with nickel-bronze alloy grinding rotor. Has adjustment for fine or coarse ice. Powered by 1/3 hp motor. 22½" high, 14" wide, 17" deep, weighs 47 lb. Finish is natural cast aluminum case. Has manual off and on switch, and lever to adjust size of crush from snow to small pieces.

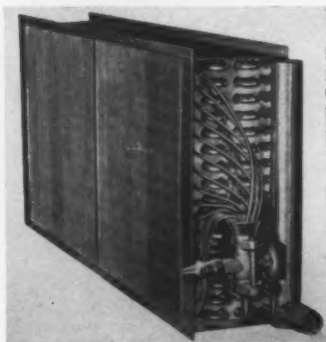
Circle No. 137 on Reader Service Card

Air Cooling Coils

Product: Complete new line of air cooling coils.

Manufacturer: Rempe Co., Chicago, Ill.

Features: Designed for use with



45 F suction and suitable for use with Freon 12 and methyl chloride. Coils are built with 5/8" copper tubes with 7 aluminum fins per inch; fins have 1/8" collars and are fully expanded to

coil tubes. Tested under 350 lb. pressure, dehydrated and sealed. Casings are heavy gauge galvanized steel. Coils furnished complete with multi-outlet expansion valves made-on, and are ready to install. Coils sized for 80 F inlet and 63 F outlet air at approximately 400 cfm per ton and 500 fpm velocity. Air friction through coil did .20" water at 500 fpm. Standard sizes range from 2 to 15 ton coil coil rating capacity; available in 4 or 6 row assemblies.

Circle No. 138 on Reader Service Card

Air Conditioner Timer

Product: Portable air conditioner timer.

Manufacturer: Time Trol Co., New York City.

Features: Timer is designed up to and including 3/4 hp capacity. Timed by Tork and motored by Telecron the switch has a 24-hour dial divided into six-hour periods. Two sets or arms allow for two settings daily. Once set, the control operates automatically and will turn off and on at any predetermined time. Model

RESULTS IN 2 MINUTES!



CLEAN AND CORROSION-FREE

Needle valve after 2 years of service, protected with Thawzone. Thawzone helps prevent corrosive attack. It destroys water before it forms acids, and neutralizes acids already formed.

There are two ways to reach moisture in a refrigerating system. One is to wait for it to come to a drier. The other is to go out and get it. Thawzone goes to the moisture. This means immediate action on moisture elimination.

Furthermore, this means that ALL of the moisture is contacted. None of it is beyond the reach of Thawzone, for Thawzone mixes freely with the refrigerant. As soon as you add Thawzone and give the unit a minute or two of "on" cycle you have started drying action through the whole refrigerant charge. No freezups tomorrow, because Thawzone destroys moisture... it can't return.

Here are some of the reasons why Thawzone has become a standard method of handling moisture problems:

- A. No pressure drop possible.
- B. Reaches all parts of the unit.
- C. Actually destroys moisture... not a mere antifreeze.
- D. Not subject to oil clogging.

- E. Neutralizes acids, helps prevent corrosion.
- F. A patented invention... cannot be copied.
- G. Helps prevent copperplating.
- H. Prevents moisture trouble in new units, too.
- I. Costs less. Only about 8c per lb. of refrigerant treated.
- J. One product for all "Freon" and methyl units.
- K. Only 1/4 oz. per lb. of refrigerant required.

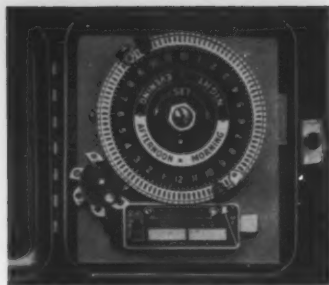
Practically every wholesaler carries Thawzone.

Highside Chemicals Co., Clifton, N. J.

THAWZONE®

**The Only Product That
Destroys Water...
and Goes to All of it**

Circle No. 44 on Reader Service Card for more information



912W allows for air conditioners to remain off any day or combination of days desired. No installation re-

quired, unit is completely portable; available with 2 or 3 prong plug.

Circle No. 139 on Reader Service Card

Ice Cream Cabinets

Product: Two new cabinets for retail delivery of ice cream on milk and bakery routes.

Manufacturer: Mohawk Cabinet Co., Inc., Utica, N. Y.

Features: Both cabinets are of hold-over type and plug into electrical outlet while truck is in garage over-



**"some combinations
can't be beat!"**



Tenney KWIK-FREEZE ICE MAKER

Tenney Kwik-Freeze Ice Makers produce ice in 120 minutes, or less, and are designed for replacement of ice trays with pans for food storage at will. Quality construction with entire body rigidly fabricated from polished aluminum, with enclosed back plate. Finned booster coils and wrapped shelf tubing is electro-tin-plated for protection of food, and prevention of electrolytic action of copper and aluminum. Frozen food compartment with door can be supplied.



It takes a combination—a well integrated Tenney team of top engineering and practical application of the lessons of experience—to produce the most efficient and durable refrigeration equipment. This Tenney KWIK-FREEZE Ice Maker, for example, embodies years of design research and manufacturing experience in the refrigeration field. This experience, combined with top flight engineering methods, is your guarantee of complete satisfaction.

That's why, for either standard or special installations, it pays to "take it to Tenney."

**SERVICEMEN
CONTRACTORS,
JOBBER,
ENGINEERS**

Tenney brings you the advantages of advanced engineering and manufacturing facilities to handle any and every refrigeration problem, for the Tenney line is built to suit your needs. Outline your problem, and let us prove that a Tenney unit will solve it.



Tenney
Engineering, Incorporated

Dept. F 26 Avenue B, Newark 5, New Jersey

Engineers and Manufacturers of Refrigeration and Automatic Environmental Test Equipment

Circle No. 45 on Reader Service Card for more information

night. Cabinets may be disconnected next morning and will hold approximately zero temperatures throughout day. Model D-4 is manufactured to fit Divco trucks only and sets in front of truck to right of driver. Model S-4 can be used on any type of truck and bolted to truck floor. Both cabinets have capacity of 25 gallons of ice cream and have lock-type latch on lid; finish is durable gray color to stand scuffing and abuse.

Circle No. 140 on Reader Service Card

Water Cooler

Product: Model No. 1715 water cooler, designed to meet peak-load requirements in large cafeterias, industrial plants, government camps, institutions, etc., where mass feeding re-



quires 25 to 40 gallons of cold, palatable water to be available for a single meal.

Manufacturer: Star Metal Mfg. Co. Inc., Philadelphia.

Features: Water cooler features polished stainless steel cabinet, of modern design, with corners rounded for safety and appearance. Cooler

incorporates exclusive Star Metal stainless steel water storage tank which provides both instantaneous cooling and large reserve water storage. Capacity: 660 to 860 glasses per hour, based on 75° incoming and 45° outgoing water, in an 80° ambient room temperature. Water cooler measures 50" high, by 30" long, by 24" wide, and includes glass guard rails, stainless steel cover, large stainless steel drainer, and chrome plated push back faucets. Water cooler can also be furnished for double service operation, and is designed to accommodate such accessories as bubblers to replace push back faucets, drainer and bubbler added to side of cooler, side shelves to support cafeteria trays, and side shelves to support glass stacking wire baskets, should these be desired.

Circle No. 141 on Reader Service Card

Automatic Control

Product: New automatic control for Walton "Aqua-Sorber" dehumidifier.

Manufacturer: Walton Laboratories, Irvington, N. J.



Features: New control is entirely automatic and reacts to moisture content of atmosphere rather than at pre-set timed intervals. Dehumidifier thus operates only when necessary, an advantage over interval timed operation which turns on dehumidifier whether moisture is present or not. Saves on power consumption, assures efficient performance at all times.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**



**HAVE THE
EDGE ON SALES**

through these

new cost-cutting developments

atomized air — Eliminates waste. Gentle circulation of moisture-conditioned refrigerated air around the merchandise in the display well, without dehydrating blast, guards the appearance and freshness that wins sales and produces fast turnover.

directional flow — Eliminates costly spillage. Controls and confines flow of atomized air to display well. There is no loss of refrigerated air out of the case into the store area — no costly spillage to cause constant overtime work for the condensing unit.

re-circulated air — Saves more than 15% running time. After air moves across the display well it is drawn back to the refrigeration coil, where only a slight lowering of the temperature is required, so that it can be used over and over again. This saves as much as 15% running time and permits the greater economy of a smaller, less costly condensing unit.

**SHERER users
have saved as
much as \$210.00
a year per 10'
display**

plus: Sherer's famous "Automatic Selling" features of design such as "wide angle visibility" and giant "panoramic" display wells that will increase the volume of unplanned sales . . . Sherer Distributors sell more because they have more to sell.



**WRITE FOR
FRANCHISE
INFORMATION**

1852 **SHERER** 1952

100 years of experience in making
food merchandising more profitable

SHERER-GILLETT CO., marshall, michigan

Circle No. 46 on Reader Service Card for more information

New control is simple to install, being plugged into both power source and dehumidifier by means of standard cord and plugs.

Circle No. 142 on Reader Service Card

Air Recovery Cell

Product: New "Dorex" heavy-duty activated carbon air recovery filter cell.

Manufacturer: M. B. Connor Engineering Corp., Danbury, Conn.



Features: Designated as Type T-42 C cell, it has thicker carbon bed than T-28 cell and slightly greater resistance to air flow for longer contact with filter media. Rated at 700 cfm of air, the T-42 is recommended for odor removal applications other than those in typical comfort conditioning systems, such as recovery of recirculated air in industrial plants and purification of contaminated exhaust and intake air. Complete data is contained in Bulletin 117-C.

Circle No. 143 on Reader Service Card



PERSISTENT IN PERFECTION...



Persistent in perfection, refrigeration equipment manufacturers like Carrier, Frick, Norge, York, Refrigeration Corporation of America have revolutionized the processing and preservation of food.

Your goal is a perfect job. Only the best of materials, the most careful workmanship, and the finest of tools are good enough for you. And you are quick to recognize the work of other real mechanics who, like yourself, are persistent in perfection.

Perfection is the standard to which Bonney wrenches are made. Mechanics call them America's finest—unmatched for lightness, strength, balance, and precision.

Bonney wrenches are the pride of the men who make them... the pride of the men who use them.

BONNEY FORGE & TOOL WORKS • ALLENTOWN, PENNSYLVANIA

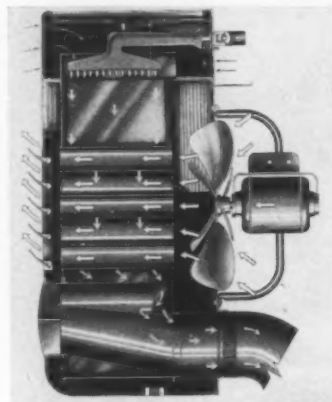
Circle No. 47 on Reader Service Card for more information

Unit Heaters

Product: New line of gas-fired unit heaters.

Manufacturer: Trane Co., La Crosse, Wis.

Features: Units range in capacity from 50,000 to 230,000 Btu per hour input. Heat exchanger is "built like boiler" with horizontal steel tubes



staggered to provide maximum areas of prime heat surface. Heat generator includes burner heads and mixing tubes of one-piece cast iron construction, engineering for efficient combustion of natural, manufactured, mixed or liquid petroleum gas. Burners, control valve and pilot are combined in one removable drawer-type assembly for easy maintenance. Built-in safety controls include high-limit switch to prevent overheating, and automatic cutoff of both pilot light and main gas supply. Full performance and specification data are contained in Bulletin DS-347, available from the company.

Circle No. 144 on Reader Service Card

**BUY FROM YOUR
REFRIGERATION WHOLESALE**

End Gate Valve

Product: No. 90 bronze solder end gate valve.

Manufacturer: Reading-Pratt & Cady Div., American Chain & Cable Co., Inc., Reading, Pa.

Features: All-purpose gate valve ideal for hot and cold water lines or low pressure steam in plumbing, heating, and air conditioning systems. Provides full unobstructed service flow. Has sturdy, amply-sectioned body that will not distort. Seat will not warp under soldering temperatures. For use with K, L and M copper tubing. Working pressures: steam, 125 pounds; cold water, oil, or gas (non-shocking), 200 pounds.

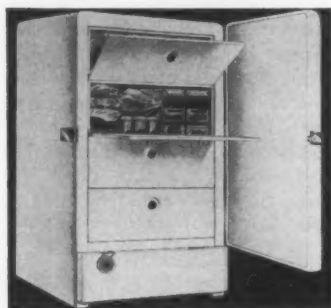
Circle No. 145 on Reader Service Card

Upright Freezer

Product: Upright 18 cu. ft. freezer.

Manufacturer: Victor Products Corp., Hagerstown, Md.

Features: This new "Quick-



freezer" occupies less than 1 square yard of floor space and provides storage for 600 pounds of frozen foods. Cabinet has four insulated doors, 11 $\frac{1}{4}$ " x 28" x $\frac{5}{8}$ " thick. Doors can be used as shelves when loading or unloading.

Circle No. 146 on Reader Service Card

Heavy-Duty Dehumidifiers

Product: New heavy-duty dehumidifiers.

Manufacturer: Frigidaire Div., General Motors Corp., Dayton.

Features: Units remove from 30 to 50 gallons of moisture from air in a day, and are adaptations of the Frigidaire 3 and 5-ton self-contained air conditioning units. First devel-

oped at request of Air Force, now being marketed for civilian industrial use. Especially adaptable for installation in storage rooms, manufacturing and inspection areas, packaging departments, laboratories and similar applications. Units completely automatic in operation. Adjustable humidistat turns mechanism on and off as needed to maintain proper relative humidity. If desired, can be set for automatic control of temperature as well as humidity.

Circle No. 147 on Reader Service Card

Bobtail Soda Fountain

Product: New improved 6'3" bobtail soda fountain.

Manufacturer: Stanley Knight Corp., Chicago.

Features: Newly designed stainless steel syrup pumps give instant service, accurate measurement; pumps are fully adjustable and have large label knob for quick identification. Newly designed lift-out refuse container is all stainless steel. Units have recessed corrugated drain areas, sinks are of deep drawn stainless

ROTARY SEAL

Replacement Units

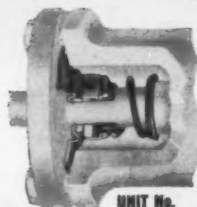
AVAILABLE FOR
MORE THAN

900

COMPRESSOR MODELS

The original precision-built replacements for Commercial, Semi-Commercial, Air Conditioning and Home Refrigerator Compressors. Proven by outstanding performance for over 20 years!

Units are available for all standard makes.



✓
Easy to Install
✓
Simple in Construction
✓
Efficient in Operation
✓
Economical

AT ALL
LEADING
JOBBERs



"Seal with

Certainty!"

2020 NORTH LARRABEE STREET
CHICAGO 14, ILLINOIS, U.S.A.

CANADIAN AGENT: 2025 ADDINGTON AVENUE
MONTREAL 20, QUEBEC, CANADA

BUY FROM YOUR
REFRIGERATION WHOLESALER

Circle No. 48 on Reader Service Card for more information



with radius corners and no cracks or crevices. Units feature "Cold Con-

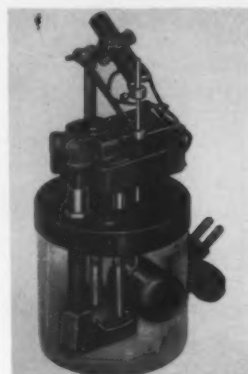
trol" refrigeration, fully adjustable individual circuits, to insure correct refrigeration. New 5-year warranty available for \$5 on self-contained condensing units.
Circle No. 148 on Reader Service Card

Condensate Pump

Product: Automatic miniature condensate pump.

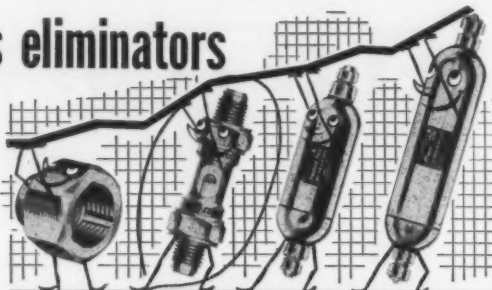
Manufacturer: Samuel S. Gelber Co., Chicago.

Features: Jar holds 1 pint of liquid, pump is all bronze, making entire unit rustproof, cover being plastic. Outlet is $\frac{1}{8}$ " IPT and can be used with rubber tubing or standard water pipe. Motor is two pole shaded



REMCO loss eliminators

pull up
profits
for you!



FROST-TITE FLARE NUTS
with forged frost-relief slots. No more losses from loosened "creeping" nuts.

STANDARD DUTY DRIERS
The lowest cost, most-efficient molded drier on the market.

Cross-Flo DRIER FILTERS
Heavy-duty—with new Fiberglass Depth Filter and new Remcal Drying Element.



E-Z-SEE leakproof LIQUID FLO-INDICATORS

with NEW Flow-Responsive FLAP to instantly indicate all variations or interruptions of flow.

The most versatile, dependable liquid indicator on the market—now more efficient with its exclusive new FLO-Indicator, which indicates flow by means of a sensitive FLAP in the tubular glass directly in the path of the liquid. Now the serviceman can accurately analyze the functions of the expansion valve by the action or position of the flow-responsive flap.

All E-Z-See Liquid Indicators are E-Z to see thru; positively leakproof; perfectly safe for pressures to 500 psi. In sizes $\frac{1}{4}$ " to $\frac{1}{2}$ "—plus new larger sizes in $\frac{3}{4}$ " to $1\frac{1}{4}$ ".

Send for Literature and Prices



CARRIED IN STOCK BY LEADING WHOLESALEERS EVERYWHERE

Circle No. 49 on Reader Service Card for more information

pole fan cooled and continuous duty 1/90 hp 110 volts single phase; cord and plug are included. Total weight $2\frac{1}{2}$ lb. Diameter $3\frac{1}{2}$ ". Overall height $7\frac{1}{2}$ ". Will move 75 gallons of water per hour at zero lift and 10 gallons per hour at 3 feet lift. Unit is used to collect condensate in refrigeration system. As liquid drips or flows into jar it raises float; at predetermined level miniature mercury switch will cause pump to operate and empty jar, carrying liquid to drain. Pump will not operate again until jar is filled.
Circle No. 149 on Reader Service Card

Endless Hacksaw

Product: New "Leytool" endless hacksaw.

Manufacturer: Alpha Tool & Supply Co., Westwood, N. J.

Features: Specially designed so operator can saw through unlimited



amount of material without being restricted by usual hacksaw frame. Consists of spring loaded plunger with comfortable pistol grip handle, and guide tube supporting regular 10 or 12" hacksaw blade. Blade rides on three hardened steel balls in front casing of guide tube. Loosening

a full GAINER



DEEP PRODUCTION PROBLEMS are often difficult to fathom and require experience and skill to solve. The Penn staff pools all efforts to reach the bottom of any trouble resulting from tubing installations and will come up with the right answer for your needs. Penn tubing is always high in quality, uniform in specifications, and sure to give satisfaction. Spring back to full production scale with Penn tubing in your products. Insist on Penn for greater gains in your production form. Send for new charts and literature.

QUALITY TUBING HAS A "PENN NAME"



PENN BRASS & COPPER COMPANY

ERIE • PENNSYLVANIA • TELEPHONE 3-1164

Circle No. 50 on Reader Service Card for more information

and AIR CONDITIONING • SEPTEMBER, 1952

knurled locking screws allows blade to be actuated by spring load plunger without being restricted to depth of cut; pressure needed on forward stroke only, as internal spring makes return stroke automatic, reducing fatigue. Priced at \$5.50 in U. S.
Circle No. 150 on Reader Service Card

Hermetic Unit Puller

Product: New hermetic unit puller.

Manufacturer: Wagner Tool &

Supply Corp., Long Island City, N. Y.

Features: Tool, a time and money saver for refrigeration service man, removes compressor and stator assembly from the opened shell of the hermetic unit in quick time and with minimum difficulty, without damage or distortion of vital parts. Listed as Part No. P-9 in Wagner catalog, tool is made of hard cold rolled steel plate, has three steel screw jacks with

**BUY FROM YOUR
 REFRIGERATION WHOLESALE**

hardened ball bearing tips and three eccentric hex steel spacers. Heavily plated. Weighs 10 lbs. Available from refrigeration wholesalers.

Circle No. 151 on Reader Service Card

Odor Remover

Product: "Air-Refresher" air deodorizer unit.

Manufacturer: Midwest Fixture Co., St. Louis, Mo.

Features: Eliminates unpleasant and offensive odors in such places as restaurants and taverns, storage area, offices, hospitals, etc. Fixture utilizes the new Odorout lamp developed by Westinghouse Electric Corp. Lamps do not mask odors, but destroy them using pure ozone generated from normal room air. Manufacturer says a barely noticeable concentration of ozone is sufficient in a room or area. Under controlled laboratory conditions using optimum values of relative humidity and temperature, one lamp can deodorize 1000 cu. ft. of air. To meet various room areas, "Air-Refreshers" are available in models using one, two and three lamps per unit.

Circle No. 152 on Reader Service Card

Upright Freezer

Product: 20 cu. ft. upright home freezer.

Manufacturer: Jordon Refrigerator Co., Philadelphia.

Features: Holds over 700 lb. of food, yet takes no more floor space than most conventional freezers of half the capacity. Features four freeze-plate shelves that permit virtually all frozen food to be in direct contact with sharp freezing surfaces. Upright design places all food within easy reach, eliminating use of heavy baskets and pile-up storage. Model has 1/3 hp hermetically sealed compressor unit, with 5-year warranty. It is mounted on slide-out tracks for easy inspection and servicing. Polished aluminum interior and five ice cube trays. Bonderized enamel exterior. Construction all welded heavy gauge steel; seams vapor sealed to prevent moisture infiltration. Fiberglass insulation. Panelyte breaker



MARSH "Serviceman" Thermometer

Here is the handsome new model of the widely used Marsh "Serviceman" — the handiest and best testing thermometer on the market.

The illustration shows the complete change of appearance, but photography can't do justice to iridescent gun-metal gray case . . . the sharp white markings on the black dial . . . the gleaming aluminum hair-line pointer . . . the moulded crystal of clear, unbreakable-but-rigid Polystyrene. And notice the new temperature range—

It now tests to forty below!

The new "Serviceman" not only looks better; it performs better. The thermometer unit has also been improved: bourdon tube is specially brazed for long, leak-tight service; internal stop on tube fully protects instrument from excess temperature. A great convenience is found in

placing the recalibrator screw in the back of the case (see cut) so instrument can be kept accurate without removing crystal.

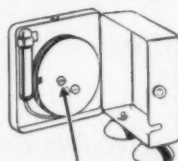
Modern tooling and production brings you this better instrument. Ask for facts.

BUY FROM YOUR WHOLESALE

MARSH INSTRUMENT COMPANY, Dept. P, Skokie, Illinois
 Sales affiliate of Jas. P. Marsh Corporation

MARSH Refrigeration Instruments

GAUGES • WATER REGULATING VALVES • SOLENOID VALVES • HEATING SPECIALTIES
Circle No. 51 on Reader Service Card for more information



Arrow points to "Recalibrator" screw conveniently located on back of instrument. A generous length of capillary tubing is neatly concealed in the case as in the former model.

**BUY FROM YOUR
 REFRIGERATION WHOLESALE**

strips around door with heating unit behind strip to eliminate condensation and ice formation.

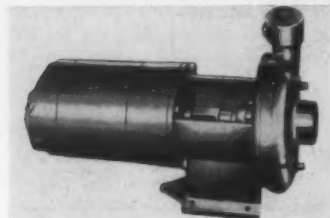
Circle No. 153 on Reader Service Card

Centrifugal Pump

Product: Centrifugal pump.

Manufacturer: Jacuzzi Bros., Inc., Richmond, Calif.

Features: New low cost general purpose centrifugal pump is called Series AM and is designed primarily



for economical pumping of large capacities at moderate heads. Especially suitable for use with air conditioning systems and circulating water for cooling towers. May be used for sprinkling lawns, pumping for swimming pools, other industrial or agricultural purposes. Special all-bronze pumps are available for pumping brine or other corrosive liquids. Sizes range from 1/4 through 5 hp.

Circle No. 154 on Reader Service Card

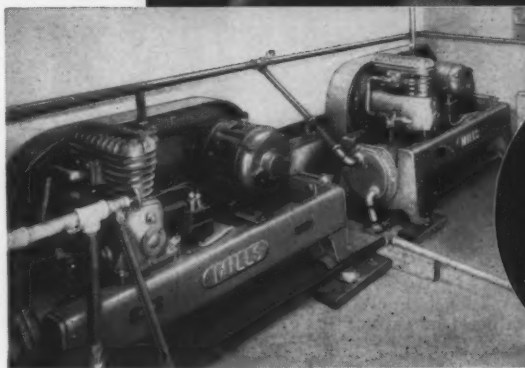
BORG-WARNER ACQUIRES FOIL INSULATION FIRM

Acquisition of Reflectal Corp., the nation's largest producer of aluminum foil blanket-type insulation, by Borg-Warner Corp. was disclosed recently.

R. C. Ingersoll, president of Borg-Warner, announced that Reflectal, with executive offices in New York City and a plant at Hudson Falls, N. Y., will be operated as a Borg-Warner subsidiary.

R. S. Ingersoll, president of Ingersoll Products, also will serve as president of Reflectal, it was announced. W. R. Julius, previously vice president of Reflectal, has been promoted to vice president and general manager. A. M. Douglass, who formerly was vice president of the National Mineral Wool Association and at one time manager of the Insulation Div. of National Gypsum Co., will be vice president of Reflectal.

WHERE
DEPENDABLE
REFRIGERATION
IS ESSENTIAL



Mills Units in the Berchum Meat Co. plant, Centerville, Calif. Installation by Amerit Refrigeration through Mills San Francisco Distributor.

SELECT
MILLS
UNITS

• You get exceptional dependability, long-life economy, and maintenance-free operation with Mills Units. They are designed right, built ruggedly, rated conservatively, and give smooth, quiet, superior performance.

All Mills Units, large or small, have a one piece compressor body and positive oil return system. Highest quality materials, traditional Mills workmanship, and 17 years of manufacturing experience make Mills Units the finest you can buy.

Capacities from 1/4 through 10 H.P. Close-Coupled Units (air-cooled only) 1/4 - 1/3 - 1/2 H.P. Air-cooled 1/4 to 3 H.P., water-cooled 1/3 to 10 H.P., also air- and water-cooled combinations 1/2 to 3 H.P. Free literature mailed on request. MILLS INDUSTRIES, Inc., 4100 Fullerton Ave., Chicago 39, Ill.

MILLS **LONG LIFE**
REFRIGERATION
UNITS

Circle No. 52 on Reader Service Card for more information

CUT CREDIT LOSSES . . .

Continued from page 38

typed on what appears to be a payment or a refund of some sort, rather than a bill. This simple psychological trick commands immediate attention.

The importance of the hand written statement cannot be overemphasized. The company found, through considerable experimentation, that when the average customer received one of its check-like statements, tore open the envelope, and saw a great deal of

printing all over the simulated check, with nothing at all personal about it, that his normal tendency was to toss it right into the wastebasket.

People simply will not pay as much attention to a printed or a typewritten sheet as to a message written in long-hand, and they often are inclined to mistake such formalized messages as simply "just another ad." For this reason, the Savage firm makes it an inviolable rule that every letter dealing with a past-due account must be handwritten in ink.

The customer's name is used in

every paragraph, to convey the impression that this is a personal message, not just another type of form letter. The company addresses its appeal in such letters directly to the customer's integrity, and wastes no time on blandishments or insincerities which the customer would swiftly detect as "phony".

Does it work? Well, the effectiveness of this collection technique is testified to by the fact that the company's credit losses have never exceeded 1% in any year since this plan was adopted, and even customers who have moved as far as a thousand miles from Reno have paid up with a minimum of mail bombardment.

Only ONE Drier has the right answers to all these questions!

HOW FAST?

McIntire DC Filter-Driers provide instant-action, first-pass drying. No repeated cycling or warming of valves. Wettest systems restored to normal operation in minutes.

HOW DRY?

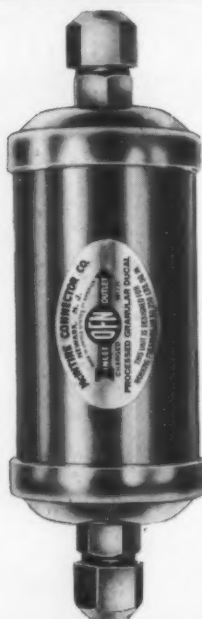
A single pass of refrigerant is deep-dried to minus 60° dew point. Pocketed moisture is swept out of every trouble spot. All water is held in drier regardless of operating temperature.

HOW MUCH?

DC Filter-Driers have double the capacity of conventional driers. Each Filter-Drier has a guaranteed moisture pick-up rating and permits accurate selection by means of the DFN Drier-Graph.

HOW CLEAN?

Each DC Filter-Drier has complete, progressive filtering media at each end—filters out all fines, sludges, flux and particles to assure clean systems with free flow.



McINTIRE DC FILTER-DRIERS

DC Filter-Driers give more of everything that counts. At wholesalers everywhere.

McINTIRE CONNECTOR CO.

257 Jefferson St., Newark 5, N. J.

Our 27th Year



**DRIERS—Moisture Control Units
Moisture Indicators—Strainers**

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SELL WATER COOLERS . . .

Continued from page 54

if you can sell the purchasing agent on the idea of applying the work center plan to this department, maybe you'll be able to gain permission to survey the rest of the plant.

So you plunge right into this new sales pitch, showing him the two typical office layouts, going over with him point by point the five-step method of checking water cooler placement, and winding up with the payroll dollar savings table as your "Sunday punch."

Then you tell him that you can check the accounting department for water cooler efficiency in less than five minutes, and ask him to join you.

Note the strategy in asking him to join you. If he does so, you can get him to agree with you on any data that might be subject to question.

You both can agree on which desk is at the average distance from the water cooler. There's no need for scientific accuracy—just make a visual appraisal of which one it is. Pace off the distance from this desk to the water cooler, counting 3 feet to the pace. You both then agree that the average distance is 115 feet.

Look the department over again and spot a good place to put another water cooler. Check with the purchasing agent as to whether or not it's near to existing water piping. Now pick a desk that is an average distance from the proposed new cooler. Pace off this distance and you get an average distance of 65 feet.

You both then have found that by adding the extra unit the average distance has been cut to 65 feet, saving

50 feet. That's all the information you need!

Go back to his office and show him on the payroll dollar savings chart that the 50 employees saved by the 50 employees would result in a saving of \$266 every year if the company's average wage was \$1 per hour. He tells you that the ABC company pays \$1.40 per hour, so you multiply the \$266 by \$1.40 to find that the firm actually would save \$372 each year by adding this one cooler.

Prove Savings Possible

You know that a 4-gallon pressure type model will be more than ample for this installation, and you estimate that it will cost \$245 installed. Now you can point out to the purchasing agent that not only will the actual savings pay for the equipment cost, plus installation, during the very first year, but that over a five-year period there will be a net savings to the firm of \$1615 (5 times \$372 minus \$245 equipment cost).

And here's your perfect opportunity to ask him to let you check over his whole plant for any other work centers where there might be inefficient, time-wasting water cooler installations.

One of the best things about this work center plan is its flexibility. You can apply it to almost any size area you wish. Actually, all a work center means is a section of floor area of a size easy for you to survey. You may recommend one, two, or even three coolers for a single work center, or you can recommend one cooler for two work centers. It applies equally to factory or office spaces.

Answer Sales Objections

When you want to apply the plan to new construction, or to any other place where no drinking water facilities currently exist, you'll have to make one preliminary step. The table has been set up to compare one installation layout against another less efficient. For this reason, you should first figure the fewest number of large capacity coolers that would be required to handle the job, and then compare the net cost of these with a layout containing a greater number of smaller units.

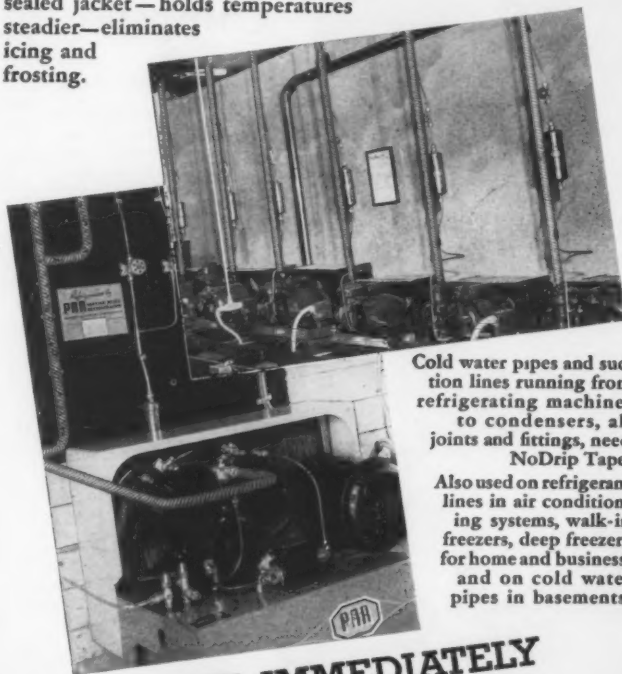
Your prospect wouldn't be worth his salt if he didn't raise some questions for you to answer. For instance he might say, "How do I actually cash in on these savings—how will

NO Drip TAPE

SOLVES the Problem of CONDENSATION DRIP

- KEEPS PIPES CLEAN AND DRY
- PREVENTS RUSTING, THUS PROLONGING LIFE
- KEEPS FLOORS DRY AND SAFER

NoDrip Tape forms a tight fitting, sealed jacket—holds temperatures steadier—eliminates icing and frosting.



Cold water pipes and suction lines running from refrigerating machines to condensers, all joints and fittings, need NoDrip Tape.

Also used on refrigerant lines in air conditioning systems, walk-in freezers, deep freezers for home and business, and on cold water pipes in basements.

EFFECTIVE IMMEDIATELY

After you have followed the easy application directions and NoDrip Tape is in place, dripping will stop. No tools or brads are needed. NoDrip Tape is wound around pipes and pressed in place with the hands.

CONTRACTORS—Include NoDrip Tape protection in your estimates, not only to stop dripping, but for the sake of good appearance on finished installations.

MANUFACTURERS and SERVICE ENGINEERS Investigate the many advantages of NoDrip Tape for condensation control and rust prevention.

Order Through Your Supply House
Circular on request

J. W. MORTELL CO.

Technical Coatings Since 1895

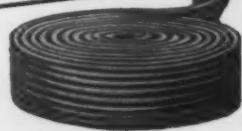
553 Burch Street Kankakee, Illinois

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A roll covers about 10 feet of 1/2" pipe

\$1.69 List

Higher West of Rockies and Canada



they be reflected on the balance sheet?"

You can then point out several ways in which a cut in wasted man-hours puts money in his pocket, such as reduction in costly overtime, fewer workers to turn out the same volume of work, more output from the same working force.

If he comments that more accessible water coolers will promote more drinks and more time spent in idle chatter standing around the cooler, you can counter with the assertion that people are less likely to waste

time chatting at a nearby water cooler that is right out in the open under the scrutiny of their own supervisor, than at one more remotely located.

Even if nearby coolers do encourage one or two more quick drinks a day, the overall saving in wasted time is only slightly reduced, and there's an offsetting advantage in health and efficiency. After all, doctors recommend seven drinks a day for best performance, and this pays off directly in less absenteeism, more time on the job, and more alert attention to work.

Then there is always the resistance to running more piping, and in many cases you'll have to put more into installation cost. However, even with additional piping you can generally show an impressive net saving.

Let's summarize what this work center plan really can mean to you, if you apply it intelligently and diligently in the course of your water cooler merchandising.

First, it provides you an opportunity to increase your volume by selling more coolers of smaller capacity instead of the fewest large capacity units.

It opens the way for you to discuss water coolers with customers who believe their present facilities are adequate, thus breaking down the idea of market saturation.

It gives you access to plants and offices, enabling you to inspect water cooler facilities and offer worthwhile advice.

It converts your water cooler selling activities into a genuine service for prospects.

It improves your chances for off-season selling, since waste of man-hours continues throughout the year.

It offers you a dollars-and-cents "pays for itself" appeal—a new selling technique to build renewed enthusiasm into your water cooler merchandising efforts.



Simpson
390
VOLT - AMP - WATTMETER

Simpson 390 Volt-Amp-Wattmeter embraces two ranges each of voltage and current providing four wattage ranges which cover practically all types and makes of appliances. Preferred by most servicemen.

RANGES: A. C., 60 cycles—Volts: 0-150, 0-300; Amperes: 0-3, 0-15; Watts: 0-300, 0-600, 0-1500, 0-3000; price with Break-In plug and leads, and Operator's Manual \$39.50

SIMPSON ELECTRIC COMPANY
5200-18 W. Kinzie, Chicago 44, Ill.
In Canada:
Bach-Simpson, Ltd., London, Ont.

Circle No. 55 on Reader Service Card for more information

TREAT EACH CUSTOMER . . .

Continued from page 49

trade, but we don't believe in padding trade-in allowances."

Comes time to close a deal, and it develops that the store owner wants some old equipment moved. Invariably he asks if the dealer will do this for free. The average dealer tries to get \$10 or \$15 out of moving it, or enough to pay for the cost of the necessary plumbing and electrical work.

But Teaff employs some smart strategy in using another approach to this problem. He says, "Sure we'll move it for you. We will have our men here, we will jack up your old stuff, put it on dollies, and move it anywhere you want it. All without any charge, of course. But naturally you'll have to pay for the plumbing and electrical work involved."

That way the customer feels that he is actually getting something for nothing, and is willing to pay a little

for labor and materials involved outside of the actual moving.

Personal Supervision Pays

"Another thing we insist upon," Teaff points out, "is that we ourselves be right there when all the installing and rearranging is being done. If we sent our men out by themselves to do this work, much time would be lost in haggling. The men would argue that they were not instructed to move anything other than the new equipment which they delivered, and the customer would get hot under the collar and threaten to call one of us on the management side. We save all that fuss by personally supervising installation of each big job, and taking advantage of this opportunity to cement a better relationship between ourselves and the customer."

In merchandising their commercial refrigeration units, the Teaffs soft-pedal product story. "We recognize the fact," says W. W., "that every food merchant is sold on the need for mechanical refrigeration. We handle a line that has customer acceptance. Talking strictly product information will not sell a piece of equipment. What the market owner wants to know is not how many Btu's that unit produces, but what that unit can do for him in terms of boosting his sales and his profits."

Talk Problems, Not Products

"We try to talk to each customer and prospect about the phases of his business that tie in directly with the line of refrigeration equipment we are trying to sell. We talk his language, discuss his problems. And when we are asked a question which stumps us, we go to other sources to get the answer. We have even written directly to the editor of various food publications for such answers, which we then pass along to the customers desiring this information."

These are some of the key factors which go to make up the Teaff policy of maintaining a small-business atmosphere even in an enterprise which, from a strictly volume standpoint, really is in the big-business field. And the Teaffs are determined never to grow so big that they can't keep it this way.

**BUY FROM YOUR
REFRIGERATION WHOLESALE**

Measure current instantly without shutting down equipment or making ammeter connections! Save costly man-hours by carrying this pocket-size tool on every call. Balance loads, locate grounds, trace shorts. Determine load conditions. Check motor overloads, start and run current, relay settings. Check open windings in motors, check out controllers, check voltage losses, etc.

Remember, "you're the doctor" when you walk in with an Amprobe.

size up the situation at a glance- "AMPROBE" IT!



\$49⁵⁰

complete with cow-hide case and voltage test leads

AMPROBE "300"

0-6/15/30/60/150/300 amps A-C
0-150/300/600 volts A-C

AMPROBE "600"
(to 600 amps A-C)

\$59⁵⁰ complete

AMPROBE "1200"
(to 1200 amps A-C)

\$67⁵⁰ complete

PYRAMID INSTRUMENT CORP., LYNBROOK, N. Y.
(Export Div.: 438 Broadway, N.Y.C.)

AMPROBE®

the only
pocket-size
snap-around
volt-ammeter

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Send Bulletins describing

☐ Amprobe Models 600 & 1200

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Company

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CONTRACTORS

NEWS • ACTIVITIES • PLANS

Contractor Query Starts Probe of "Convair" Bidding Procedure

AN INVESTIGATION by Los Angeles contractors into why separate bids were requested for various pieces of air conditioning equipment and other contracts were let for labor on the Navy's Convair job at Pomona, Calif., has blossomed into a full scale investigation of bidding procedure on the job by the Construction Employers Council.

The original investigation was started by the Refrigeration and Air Conditioning Contractors Association of Southern California. The association set up a committee to handle the matter.

The committee lodged a protest with Capt. A. I. Flaherty, public works officer of the 11th Naval District. Capt. Flaherty replied that the Navy had deviated from normal procedure because of the "limitations on this project".

The committee asked for an explanation of the circumstances requiring a deviation, and were referred to Commander F. G. Jansen, stationed at Los Angeles.

Relating later happenings in the situation, Henry B. Ely, executive secretary of the contractor association, reported:

"On June 24 we met with Commander Jansen and several other Naval officers, as well as a civilian employer. Commander Jansen stated that the reason the air conditioning job at Pomona was broken down into component parts was the following materials were in critical supply last fall: sheet metal, ceiling outlets, boilers, coils, blowers, exhauster fans (roof) and compressors.

"A number of contractors have denied any such shortage, with the possible exception of sheet metal which,

incidentally, was not let to a supplier but to contractors along with the labor.

"In the meantime, the Construction Employers Council found that the same practice of breaking down sub-contract bids into component parts for the Convair job was followed for a number of other sub-trades.

"It appointed the following as a committee to study the bidding procedure on the Convair job:

"Glen Arbogast, Newberry Electric; Walter Lindsay, H. E. Murray Plumbing Co.; Bob Richardson, Painting and Decorating Contractors Association; Bill Ness, National Cornice Works, and Ely, of the Refrigeration and Air Conditioning Contractors Association."

Ely also reported that the board of directors of the general contractors association has advised him that "the manner of letting sub-contracts for air conditioning on the Convair job does not represent any official policy on the part of the Associated General Contractors".

ACME HEAT PUMPS USED IN 5 FLORIDA SCHOOLS

Acme Industries "Flow-Temp" heat pumps are being shipped to the new Pinellas County, Fla. schools at Largo, Tarpon Springs, Clearwater and St. Petersburg, where they will be used to heat new school buildings.

These buildings are constructed with wings containing the classrooms, and each wing of the building will have its own individual Flow-Temp heat pump system. This system, operating electrically, will use well water as a heat source and distribute heat by means of radiant heating coils, imbedded in the floors, to each of the individual thermostatically controlled class rooms. Clean, even heat is made constantly available without the use of boilers, conventional fuel, and fuel storage requirements. There are also the advantages of reduced fire hazards because of the nature of this flameless heating system plus the elimination of the danger of exploding steam boilers.

The same heat pumps, with the seasonal change-over valve, will supply chilled water in the summer, as well as hot water in the winter, to air handling units supplying year-around air conditioning in rooms where required, such as gymnasiums, cafeteriums, and some class rooms.

This is the first time that heat

Where a Great Industry Got Its Start



THE FIRST BUILDING ever to be air conditioned, the lithographic plant of Sackett-Wilhelms in Brooklyn, N. Y. The first air conditioning installation was made in 1902.

A NEW INSULATION



Armstrong's PLASTICORK

Armstrong's Plasticork is a brand-new, low-temperature insulation. It's a cork-and-rubber composition that can be applied to any cold line fitting. The workman molds a Plasticork fitting cover right on the job—builds it up by hand over the fitting to be insulated.

Where fittings are close to each other or to wall surfaces, Plasticork makes the work faster and easier. It does away with the time-consuming task of cutting each regular cover to fit these difficult places.

Waiting for special factory covers causes delay on many cork covering jobs, too. With Plasticork, special fittings can be insulated immediately. You don't need factory covers for them.

Plasticork has excellent insulation value. It's 80% cork by volume. Applied in the same thickness as the cork covering on the adjacent piping, its efficiency is comparable to factory-made cork covers.

With Plasticork, you get a neat job that's difficult to distinguish from conventional covers. Plasticork holds its moldable characteristics for years. It's an item you can stock and use any time to insulate any fitting. It can even be removed and used again without loss of workability or efficiency.

Plasticork is shipped in cardboard cartons containing 5, 10, 20, and 40 lbs. Weight is 15 lbs. per cu. ft. Sundries for application can be supplied on order.

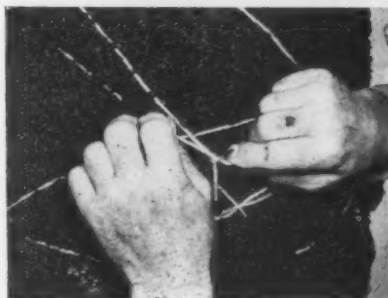


SEND FOR FREE BOOKLET:

Get a complete description of Plasticork, plus application specifications and coverage data. Write today for the 8-page booklet, "Armstrong's Plasticork." Address Armstrong Cork Company, 5309 Concord Street, Lancaster, Pennsylvania.

**ARMSTRONG'S
INDUSTRIAL INSULATIONS**

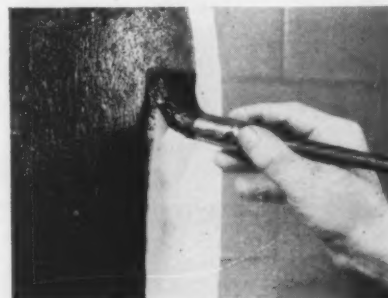
1. Plasticork is packed firmly about fitting that has first been coated with Plasticork Primer.



2. Plasticork is then molded to the proper thickness and held in place with either twine or tape.



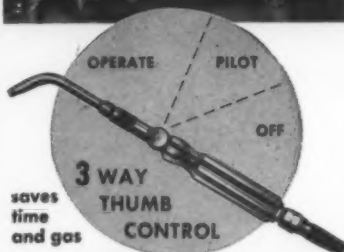
3. A 1/4" thickness of Keene's Cement is trowelled to a smooth finish directly over the Plasticork.



4. Two coats of Armstrong's Weatherproof Plastic are brushed on to provide a tight vapor seal.

NEW! BETTER! Sod-R-Braze

ACETYLENE-AIR TORCH
with LEAK DETECTOR



With a few twists of the wrist, attach the sensitive NCG Leak Detector to the new Sod-R-Braze torch handle and you're ready to locate refrigerant leaks with pinpoint accuracy. With the same ease, unscrew the Detector, attach a tip and you've got a soldering and brazing torch that beats any you ever used. Outfit, including "NB" cylinder with 40 cu. ft. of high-heat acetylene gas, is easily portable, particularly so with NCG's new "Carryall"

Sod-R-Braze is a trade mark



NCG
NATIONAL CYLINDER GAS COMPANY
840 N. Michigan Ave. • Chicago 11, Ill.

Circle No. 58 on Reader Service Card
80

pumps have been used for complete schools in this country, and is the largest shipment of heat pump units to a single user in the world to date, Acme says.

The use of Acme heat pumps in these buildings facilitated their construction at a considerable saving to the taxpayers as compared to the cost of constructing similar schools using a fuel type heating plant. Philip F. Kennard, architect, who designed these schools, has stated that the cost of operation will be less for the Flow-Temp systems than it would be with conventional systems.

There are also added advantages such as the elimination of space consuming boiler and fuel storage rooms, scenery-marring smoke stacks, and expensive yearly cleaning and redecorating tasks.

STUDY PERFORMANCE OF COOLING PANELS

Internal radiation emitted from electric lighting filaments may constitute a major portion of the total cooling load, according to Merle Baker, assistant professor of mechanical engineering at the University of

Kentucky, in a paper at the recent semi-annual meeting of American Society of Heating and Ventilating Engineers.

Prof. Baker said that for structures not equipped with cooling panels, the effectiveness of this energy in heating the room air varies with the equivalent overall conductance of the enclosure, and ranges approximately from 96% to 69% for good and poor insulations, respectively.

"By use of cooling panels, possessing a conventional finish," he pointed out, "these values decrease appreciably, ranging from approximately 62% to 48%. A further decrease to approximately 52% to 45% is accomplished by use, in the design, of a heat-absorbing panel surface.

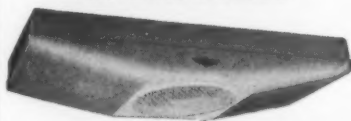
"From the established relationships, both the panel cooling and the convective load components may be calculated for any given panel temperature, or the required panel temperature may be computed in accordance with the comfort equation.

"The effectiveness of the lighting load in heating the air is independent of panel surface temperature, and decreases with the equivalent conductance, panel absorptivity, and the light to panel shape factor."

A cooling panel intercepting one half of the radiation from a light source, directly absorbs approximately 23% to 37% of the electrical input to the lights when the enclosure surfaces possess an absorptivity value of 0.5 and a panel absorptivity of 0.5 and 0.8 respectively.

LOOK to LARKIN

for Low Prices



LARKIN CEILING HUMI-TEMP

Price is only one factor in the selection of any product—especially one that has so important a task as protecting valuable perishables. Performance must come first. Quality cannot be overlooked. Durability is highly important. Larkin has all of these. And Larkin has low prices, too. Compare them and see for yourself how low they really are.

For the latest Larkin price list, see your wholesaler. If you wish, write direct to us and we shall be glad to send you one.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY



Circle No. 59 on Reader Service Card
SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

DALLAS YORK DISTRIBUTOR CELEBRATING 20TH YEAR

The Dallas Air Conditioning Co., Dallas, Tex., one of the oldest air conditioning and refrigeration distributors in the United States, is celebrating its twentieth anniversary this year.

S. Y. Guthrie, one of the owners, founded the firm and in 1932 started selling and installing air conditioning and refrigeration equipment manufactured by York. Guthrie first operated a little office on Commerce St., Dallas, and had only three or four employees compared with the present staff of 75.

Oldest distributor of its kind in Dallas, Dallas Air Conditioning operates in Dallas and 35 other north Texas counties. Marvin Brown, who joined Guthrie in 1936 as a partner,

said the firm's original franchise permitted operation in only 16 Texas counties.

The company sells, installs and maintains York air conditioning and refrigeration equipment in private homes, office buildings, dairies, restaurants, hotels, taverns, stores, industrial plants, etc.

Guthrie and Brown moved their company into a new building two years ago at 1708 Cedar Springs Ave., Dallas. The new plant cost in excess of \$200,000 and has 21,000 sq. ft. of floor space. Almost a fourth of this is utilized by air-conditioned offices and display rooms.

FARR APPOINTS TWO SALES EXECUTIVES

Farr Co. of Los Angeles, manufacturers of air filters and air filtration equipment, has announced the appointment of Robert S. Bebb of Los Angeles as division sales manager supervising the Western division. James E. Matuska of Seattle has been appointed district sales manager for the Northwest district.

REFRIGERATED CANDIES SUBJECT OF RESEARCH

"Prevention of Sugar Blooming of Refrigerated Candies" was the theme of a conference held recently for the purpose of planning a third research project under the tri-sponsorship of the Refrigeration Research Foundation, the Georgia Experiment Station and the National Confectioners' Association.

Objectives of this work will be to determine the influences of several types of packaging materials when used on a variety of candies under varying storage conditions. Among the types of candies to receive consideration are chocolate coated vanilla creams, chocolate coated marshmallows, chocolate coated cherries, chocolate coated caramels, chocolate coated nougats and assorted candies.

Storage Conditions Varied

Candies are to be stored in rooms of three temperatures, namely, 60 F, 32 F, and -5 F with the variation not to exceed one degree, plus or minus. The relative humidity of the packaging and conditioning rooms will be predetermined. At the present time it is expected that the various samples will be packaged in a room

40 to 45% relative humidity.

In a few of the samples it is expected that a desiccant will be included in the candy package or box.

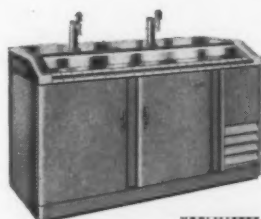
Various Wraps Used

The candies will be wrapped in different types of packaging material, such as cellophane, glassine and waxed papers and aluminum foil. Advice of suppliers of these types of material is being secured in order that specific characteristics of the ma-

terials, such as grade, will be definitely known, as well as commercial practices prevailing.

The amount of sugar bloom or dulling of the surface will be studied by observation, with the microscope, measured with an electric photometer and photographed.

It is expected that the project will start this fall. The other two projects sponsored by the three organizations related to storage of peanuts and nuts used in candies and to shelf life of candy.



KOOLMASTER
Direct Draw Beer Dispensers



DRY KOOL
Bottle Coolers

REMEMBER
you are buying for
TOMORROW



KUBEMASTER
Ice Cube Maker



UNDER COUNTER DRY BOTTLE COOLERS

Over a decade ago we gave them names . . . KOOLMASTER — DRY KOOL — KUBEMASTER . . . and they went on to set standards for the trade. Those early units are still giving economical, dependable service to people all over the country.

Today our beverage line of DIRECT DRAWS, BOTTLE COOLERS and ICE CUBE MAKERS still leads the field. Smoother, slicker and as modern as tomorrow, they are worthy successors to those UNITED pioneers. Select UNITED and you always know why.



For complete information
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Locust & Walnut Streets
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Scheel International, Inc.
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Buy Peerless FOR PERFORMANCE

**Faster-
Freeze
Finned**



Cube Makers

The PEERLESS Finned Faster-Freeze Cube Maker provides both refrigeration and rapid ice-cube manufacture from a single, balance, compact unit. Its fin coils are standard PEERLESS coils with nonsoldered return bends . . . the ice-cube maker is standard PEERLESS all-aluminum construction. Easy installation and trouble-free operation are outstanding features; these Finned Cube Makers are available with either copper or aluminum tubing, permitting choice of refrigerants. Plain type cube makers also available. Sizes, capacities for all requirements. Designed to meet government specifications. Write for details.

Peerless of America, Inc.

1501 No. Magnolia Avenue
Chicago 22, Illinois, U.S.A.

NEW "SPACE SAVER"

**EXTRA
PROFIT
MAKERS**

DESIGN ENGINEERED
FOR RIGGED SERVICE



ADJUSTABLE COMPRESSOR RACK

Ready-made, sturdy, dependable. Cross-braced both ends and back. Quickly installed. For all units to 3 h.p. SAVES space. RAISES units off floor; IMPROVES appearance. FIRE HAZARD PROTECTION—all metal! Better, more economical than homemade racks.

NEW—Packless LIQUID LEVEL GAUGES

VOG-1—For Compressors—Eliminates—Flapper Valve troubles, Seal troubles, Bearing wear.

VOG-2—For Receivers—Safeguard Receivers from overcharge.

WRITE FOR CATALOG AND PRICE LIST
(Give Wholesaler's Name)

Fine PRODUCTS CO.

4837 SOUTH WESTERN BLVD.
CHICAGO 9, ILLINOIS

CHICAGO CONTRACTORS' ANNUAL GOLF TOURNEY

The fifth annual golf tournament, sponsored by the Refrigeration and Air Conditioning Contractors Association of Chicago, was held July 31 at Itasca Country Club, near Chicago. Attendance at this year's event exceeded all previous outings from an attendance standpoint.

The weather was ideal, and the representatives from all factions of the industry who attended as guests of RACCA of Chicago voted the affair an outstanding success.

Winner of the low net trophy (Peoria system) went to Ted C. Johnsen of the Johnsen Refrigeration Co., who tied with George T. Howe of Accurate Electric Refrigeration Service, Inc., for the award but won out in the "draw" for top award. As consolation prize, Howe was awarded a clock-radio. The trophy was presented to RACCA by REWA in 1948, and each year is passed on to the winning RACCA member.

Wally Wischhover of Resco Refrigeration Service won a special small trophy for being the high gross player of the day. Presenting the award vice president Albert G. Weil called attention to the badly bent gold club and the stance of the player on the trophy.

Special awards went to Bob Mitchell of Service Parts Co., for low

gross of the day; and the following won low net prizes: Spike Cohen, Bransky Refrigeration Co.; Barney Pruyn, Refrigeration Service Co.; B. Dorman, Fred C. Kramer Co.; E. Holmes, guest of Merchants Commercial Refrigeration Engineering Sales, Inc.; Orrin Rose, Dola Refrigerating Co.; and W. Vodak of C & Z Commercial Refrigeration Sales & Service Co.

Door prize, a radio, went to Roy Heier of Temperature Equipment Corp. Golf committee, comprised of G. F. Restagno, chairman (Resco Refrigeration Service) and Earl A. McLean (Merchants Commercial Refrigeration) planned prize distribution so that each of the 200 men attending would receive at least two gifts, and some even three.

ROOM COOLER MARKET GROWING, DONLEY SAYS

The recent heat wave brought a sell-out of General Electric room air conditioners, Harold B. Donley, general manager of G-E's room cooler department, said.

Donley added that his department did as much business with its two models— $\frac{1}{2}$ and $\frac{3}{4}$ hp—in a six-week period during the heat wave as it had during the previous six months.

He said the company's sell-out was

NO MORE FREEZE-UPS

of expansion valves or capillary tubes!

ICE-X works like magic

SERVICE MEN SAY: "ICE-X IS GREAT!"



When ice forms in expansion valves or capillary tubes, ICE-X is a sure remedy . . . ICE-X is non-corrosive—harmless to parts. An ice-eliminator that can't be beat for Freon, Carrene, or Methyl Chloride systems . . . Order from your jobber. If no jobber, order direct.



Service doesn't failer
when it comes from Harry Alter

The HARRY ALTER CO.

1728 S. Michigan Ave. Chicago 16, Illinois

Jobbers: Ask for special offer!

Exclusive
ICE-X
Distributor

typical of the industry and represented a growing consumer acceptance of room air conditioners as a necessity for better and more comfortable living.

He described this year as a turning point in this respect. During the past few years, he explained, more and more office and industrial buildings have been air conditioned and more and more working people, accustomed to mechanical air conditioning on the job, are demanding it through room air conditioners for their homes.

Industry-wide sales of room air conditioners in 1951 approximated 250,000 units, Donley said. This year they are expected to reach 350,000.

Next year's forecast for the industry is 400,000 units, an increase of about 14%, the G-E executive said.

By 1961, Donley said, about 1,000,000 room air conditioning units are expected to be sold annually by the industry, with the private home being the principal market.

The increasing consumer acceptance will attract more manufacturers into the field and will put the potential customer in a position to be more selective and demanding, Donley

said. He added that manufacturers will have to anticipate and cater to consumer desires to capture and retain the expected new customers. Telling sales points will include ease of installation, size of unit and degree of automatic control, he explained.

DALLAS PROJECT HAS ALL-YEAR CONDITIONING

Another Dallas building firm has joined the growing ranks of builders to offer General Electric year-round air conditioning to home buyers.

Modernaire Construction Co. has announced that each house in its new 76-unit project in Alger Park will be completely air conditioned. This is the third big development in Dallas this year to feature G-E year-round air conditioning.

Summer cooling in the latest Dallas development will be provided by a 3-ton G-E packaged residential air conditioner. Heating in winter will be by a G-E gas-fired warm-air furnace. A single air duct system will distribute cool or warm air to each room in the house.

Inwood Heating & Appliance Co., G-E dealers will make the installation through Texas Distributors, G-E distributors in Dallas.

PAULSEN TO MANAGE TRAINING FOR TRANE

Milton R. Paulsen, formerly instructor of heating and air conditioning, Milwaukee School of Engineering, Milwaukee, has been named manager of the training department of the Trane Co., La Crosse, Wis.

Paulsen will direct the intensive post graduate course in air conditioning and heating engineering founded in 1925 by Reuben N. Trane, chairman of the board of the Trane Co. Each year the company selects from 30 to 40 mechanical, electrical and chemical engineering graduates from universities throughout the country for one year's advanced training in air conditioning, heating, ventilating and refrigeration. Majority of the graduates receive sales engineering assignments in the company's 90 U. S. and Canadian field offices.

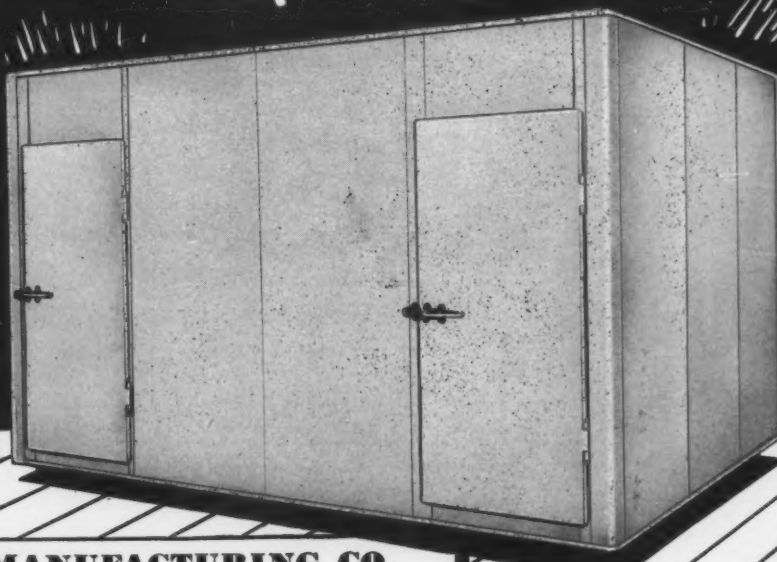
**BUY FROM YOUR
REFRIGERATION WHOLESALE**

UNIFLOW Walk-in Coolers

**STANDARD
TEMPERATURE COOLERS
MULTI-TEMP COOLERS
WALK-IN FREEZERS**

Famous Uniflow "Sectionalized" Walk-Ins for frozen foods, meats, bottled goods, ice cream, fruits and vegetables, dairy products.

Send for full information on your needs... we have a unit especially designed for you. Complete brochure available, too! Write!



UNIFLOW MANUFACTURING CO.

1504 East Lake Road, ERIE, PENNA.

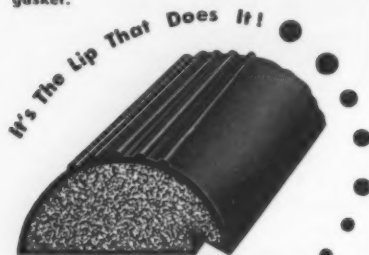
This is the famous Uniflow 9'x12'x7'7" Walk-In Cooler

ReSeal Cushion REPLACEMENT GASKET

**Restores Original Appearance
and Efficiency.**

Seals Out Dirt & Dust

An all-purpose Cushion Replacement Gasket designed to replace the worn out cushion without replacing the entire gasket.



No. 710 Blk. No. 711 Grey
Tapered design of undercut lip applies permanent pressure against the web of old gasket forming a tight, dirt-free seal.

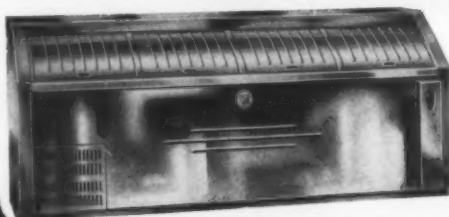
Available Through Your Wholesaler



YOUR CUSTOMERS PREFER LA CROSSE!

SELF-CONTAINED BOTTLE COOLER

Take a look at the sleek beauty of this new cooler—the spacious interior, the convenient shelving arrangements and careful construction. Well insulated stainless steel doors “slide away” at the touch of a finger . . . adjustable partitions . . . 3” Fiberglass insulation . . . 4’, 6’, 8’, and 10’ models—extra bottle capacity and c.f.m. cold air circulation.



STAINLESS STEEL OR BLACK BAKED ENAMEL

SUPREME BOTTLE COOLER

Schools are opening up. Here's the perfect product to open up the school market for you. Yes, economy and efficiency team up to make this low price-high quality cooler more and more popular in schools, restaurants and hotels where refrigerated storage for milk and other dairy products is needed. Exterior blue baked enamel or stainless steel . . . stainless steel lids . . . 3” Fiberglass insulation. . . . Model 461 4 ft. length illustrated, also available in 6' length.



LA CROSSE COOLER CO.

Factory and Gen'l Offices: 2814 Losey Blvd. S., La Crosse, Wis.
Export Office: 80 Broad St., New York City Cable Address: Eximport
Circle No. 65 on Reader Service Card for more information

ABOUT PEOPLE . . .

Continued from page 51

from three years of active duty with the Marine Corps, and will be covering the territory of Iowa and Nebraska. Whelpley, a member of R.S.E.S., has been associated with service engineering, and will be sales supervisor in the states of Illinois and Indiana. Both men will work with manufacturers, jobbers, and dealers in the sale of RP filters and related products.

Raymond C. West and George F. Bright have been assigned to new district manager positions for Manning, Maxwell & Moore, Inc. West becomes Gulf Coast district manager with headquarters in Houston, Texas, while Bright is made manager of the mid-continent district with headquarters in Tulsa, Okla. West has been with the company since 1942, Bright since 1949.

Appointment of Ken R. Northey of Spokane, Wash. as exclusive factory representative for Federal Refrigerator Mfg. Co. in the northwest states has been announced by the company. The territory to be covered by Northey will include the states of Oregon, Washington, Idaho, northern Utah and the Province of British Columbia, Canada. Northey has operated his own commercial refrigerator distributorship in the territory for many years and has extensive experience in that field.



Domer H. Thiele of Johnstown, Pa., has been named as the new sales representative for McQuay, Inc. in the Pittsburgh territory on air conditioning and heating products. Thiele has been a manufacturers' representative in the heating and ventilating field in the Pittsburgh area for the past twelve years.

Raymond A. Rich has been appointed vice president of the refrigeration division of Philco Corp. Rich will be responsible for the development and pricing of refrigerators, freezers and air conditioners. In 1949 Rich joined Philco as a product manager and for the past years has been vice president of products in the refrigeration division.



William G. Van Beckum has been recently appointed director of research and development for Pacific Lumber Co., manufacturer of “Palco Wool” insulation. He will be closely associated with long-range development in the low temperature and home insulation fields. Since 1948 he has been manager of technical service and assistant sales manager, special products division, Weyerhaeuser Timber Co.

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Wendell S. Clough has been appointed advertising manager of Bell & Gossett Co. Clough, who has been identified with the design and marketing of products for the building industry for the past 15 years, joined Bell & Gossett in 1948 as a member of the sales staff.

Dick Newman has joined Schaefer, Inc., manufacturers of refrigerated ice cream cabinets, frozen food cabinets and home freezers, as district factory representative. Newman has been active in the refrigeration and dairy industry since 1928. In his new post he will take over the Minnesota, Wisconsin, Iowa, North Dakota, South Dakota, Nebraska, Montana and Wyoming territory formerly in charge of Elton F. Hess, recently named sales manager of the Schaefer commercial division.

Ralph A. Rockwell, formerly director of engineering at the Mason-Neilan Co. of Boston, has been ap-

pointed technical consultant for the valve division of Minneapolis-Honeywell Regulator Co. Rockwell will serve as advisor to the division's sales and engineering departments co-ordinating the design, application and production of industrial valves.

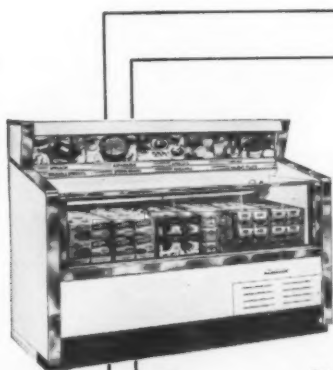
Harry E. Johnson has been appointed manager of ice cream and frozen food cabinet sales in the chain store division of Bally Case & Cooler Co. Johnson, who has been with Bally since 1945, has been a factory representative in the company's porcelain division and district sales.

Appointment of **Harry M. Frecker** as manager of commodity sales for the mechanical goods division, United

States Rubber Co., has been announced by W. A. Tipton, sales manager of the division. In his new position, Frecker will have direct charge of all commodity sales departments for such mechanical rubber goods, including V-belts, flat transmission belts, hose, packing, plastic products, molded rubber specialties, and industrial rubber mountings.

John H. Thomas, previously manager of the Homewood manufacturing and repair plant of Westinghouse Electric Corp., has been appointed manager of manufacturing at the firm's East Springfield plant. Thomas started with Westinghouse in the shops in 1922.

Robert J. Adam has joined the Detroit office of Dow Chemical Co., where he will handle the sale of Styrofoam a plastic material used in the low temperature insulation field. Adam has been with Dow since June, 1951.



McCray Cases
are
**DOLE
PLATED**

Display cases are no better than the refrigeration equipment that powers them. McCray Koldflo Display Cases are selling BIG because they're attractively designed, well built and equipped with DOLE Vacuum Plates. Model GF-6BM shown here uses Holdover Plates by DOLE to provide constant refrigeration. You can buy McCray with safety knowing they're DOLE-PLATED.

DOLE makes no cases or cabinets to compete with display case customers. Ask for display case plate literature today.

DOLE REFRIGERATING COMPANY

5942 NORTH PULASKI ROAD, CHICAGO 30, ILLINOIS

103 Park Avenue, New York 17

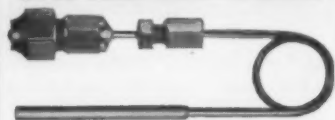
In Canada: Dole Refrigerating Products Limited

44 Elgin Street, Brantford, Ontario

5950

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Allin Adjustable CAPILLARY TUBE



**for Refrigerant Control
with 1 Setting for all refrigerants!**

Easily Adjusted to provide an accurate means of metering the flow of all refrigerants for specific temperature conditions. Two sizes cover all capacities from the smallest unit through one horsepower.

Supplied ready for installation. Standard $\frac{3}{8}$ " x $\frac{1}{4}$ " reducing flare nut on inlet, and either $\frac{3}{8}$ " male flare or 3" length of $\frac{1}{4}$ " tubing on outlet. Removable 150 mesh monel screen. Silver soldered connections.

Send for Bulletin SE-51

**Ask Your Wholesaler for
Allin Practical Products**



ALLIN MANUFACTURING COMPANY

1153 West Grand Ave., Chicago 22, Ill.

Room Cooler Buyer Merits More Than an "Up-To" Answer, Laube Says

ROOM AIR conditioner salesmen frequently confuse and mislead the buyer with an "up-to" answer to the question "How large a room will the unit cool?" So stated Herbert L. Laube, Chairman of the Room Air Conditioner Section of the Air Conditioning and Refrigerating Machinery Association, speaking before the 44th annual convention of the Appliance Division of the National Association of Electrical Distributors.

The chairman of the meeting, H. S. Schiele of St. Louis, had asked Laube, representing the manufacturers of room air conditioners, "Is any progress being made toward arriving at an adequate industry rating for various types of room air conditioners?"

"That is a question, usually in a simpler and more condensed form, every prospective buyer invariably asks the room air conditioner sales-

man," Laube replied, "but the salesman's answer is not always the kind which inspires confidence or results in a complete meeting of minds between the buyer and the seller.

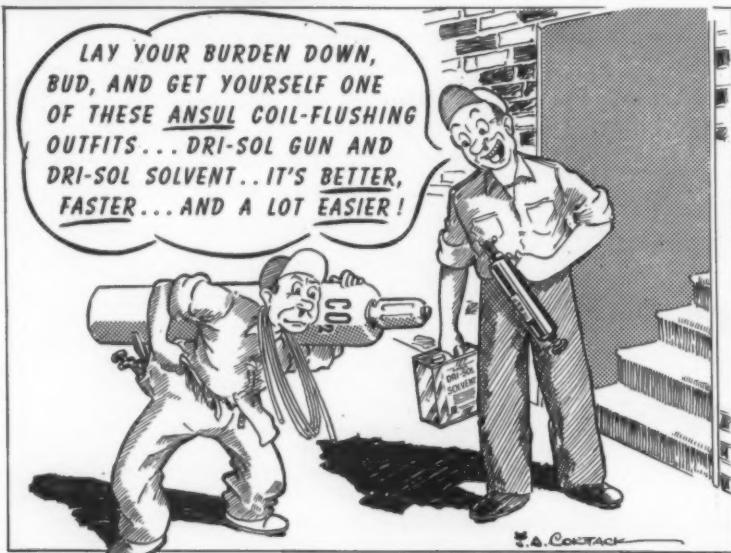
"Often the seller, when his prospect asks, 'How large a room will it cool?' replies with what I call the 'up-to' answer. He points to one of his air conditioners and says, 'This unit will cool a room having up to 300 sq. ft. of floor space.' Rarely does the seller give the corollary to this answer, namely: 'Additionally, this unit will cool a room down to, say, 60 sq. ft. of floor area.'

"Take a room of fixed size here in Atlantic City or, better yet, take two rooms of identical size, both located here in Atlantic City. Assume that in both cases there are two room occupants. Thus, the size of the room, its occupancy, and the climate to which it is exposed are the same in both cases. Depending on *eight other factors*, however, the variation in the actual size of a room that is specific room air conditioner will properly cool will vary as much as 700%, depending on these eight additional factors.

Eight Factors Cited

"Any reputable make of $\frac{3}{4}$ hp room air conditioner may be suitable for a room having a floor area of anywhere from 70 sq. ft. to 500 sq. ft., depending on the following briefly-stated factors:

- "1. The differences in room location. In this latitude, a room on the north side of a building can be adequately cooled by a much smaller unit than a room on the southwest corner, where the sun heat is felt most severely.
- "2. The area of the room's windows.
- "3. The extent of outside shade from trees, other buildings, etc.
- "4. The construction of the building itself: whether it is an



There's now a better and easier way to clean refrigerant lines and coils. Cumbersome and often dangerous makeshift methods are eliminated with the Ansul DRI-SOL Gun. It is the first of a series of Ansul-designed mechanical refrigeration products.

Ansul DRI-SOL Solvent is specially

compounded for use with the DRI-SOL Gun. It eliminates the toxicity hazard often associated with other cleaning solvents. DRI-SOL Solvent's great affinity for moisture and speedy action on wax deposits, sludges, and other foreign materials make it the ideal cleaner for refrigeration systems.

SEE PAGE 4

Circle No. 4 on Reader Service Card for more information

uninsulated frame house, an insulated structure, or has heavy masonry walls.

"5. The ceiling height: whether it is 7½ feet or possible 12 feet.

"6. The construction and location of the ceiling: Is it insulated, is it uninsulated but under occupied space, or it is uninsulated and adjacent to a hot roof or attic?

"7. Is the room on the ground floor or is it over occupied space?

"8. Is the unit for daytime use or just for night use, as in a bedroom?

"These are the reasons why the prospect is entitled to more than just an 'up-to' answer.

"Suppose a woman called at the store of one of your dealers and said she wanted to buy an agitator, the gearing, the motor, and the wringer for a complete washing machine, but not the tub, because she already had a tub at home. Even if he had it available, the dealer would be reluctant to sell her what she wanted because he would realize it might not fit the tub.



HERE'S AN IDEA you might suggest to those of your restaurant operator customers who feature shrimp cocktails or similar seafood specialties on an all-hour basis. Buy the featured delicacy in larger quantities, prepare it ahead of time, and store in the freezer—the you'll always be ready to serve your customers, no matter when they call. Bruno's Bar and Cafe, Camden, N. J., has adopted this method successfully on shrimp cocktail, its featured seafood specialty. The manager says that by packing the shrimp, after cleaning and preparation, in half-gallon liquid tight paper containers, and putting it in the freezer, the shrimp retain its "fresh from the ocean" taste and appeal, even if kept frozen for long periods. Other seafood specialties and ready-prepared chicken are other foods that can be handled in the same manner.

"Suppose another person walked into the same dealer and wanted to buy a complete refrigeration mechanism: evaporator assembly, ice cube

trays, connecting tubing, compressor assembly, etc., telling the dealer that he wanted it for a box he had at home. In addition, he expected the dealer

Get Set for Profits!



*This Popular Model
Sells Itself AND Beverages*

Fitted with a Panelyte top, this *top-quality* competitively priced beverage cooler becomes a beautiful counter-bar. It keeps a fast pace selling icy, dry drinks. (Unlimited extension counters can be attached, as illustrated.) Available self-contained or remote; sizes from 27 to 43 cases 12-oz. bottles.

WARREN REFRIGERATORS

P. O. Box 1436, Atlanta 1, Georgia

Please send us full information on the Warren Model B Beverage Cooler:

Name _____

Street _____

City _____

Circle No. 70 on Reader Service Card for more information

Pumps and Condensate Disposal Units

A large selection of heavy duty pumps for continuous duty under severe operating conditions.



Eastern condensate units are available for normal or high temperature operation. Completely automatic and foolproof.



Send for full information . . .

Eastern INDUSTRIES, INC.

296 Elm St., New Haven, Conn.

to give one year's free service. Do you think the dealer would or should make such a sale, without knowing anything whatsoever about the box the mechanism was intended to cool?

"Yet it is common for a buyer to walk into a dealer's showroom and buy a 1/2 hp room air conditioner without any question whatsoever being raised as to the size and character of the room the unit is expected to cool. Is it any wonder that some buyers have been dissatisfied? The room air conditioner . . . is useless unless it is used in the proper environment. Unless the room to be cooled and the unit to cool it are 'matched,' the results will not be good. The room air conditioner is nothing more than a mechanism for pumping heat out of the room. Unless the unit does this, it cannot possibly give satisfaction.

"Has any progress been made toward giving the prospective buyer a quick and satisfactory answer when he asks, 'How large a room will the room air conditioner cool?' Yes, most manufacturers of room air conditioners belong to the Air Conditioning and Refrigerating Machinery

Association. ACRMA has developed a simplified estimating form now used by most room air conditioner manufacturers. With a very few hours of training, the non-technical salesman can use this with accuracy. In fact, in a matter of 10 or 15 minutes after he has surveyed a room, he can tell the prospect exactly what size room air conditioner is needed for the particular space to be cooled.

Training Not Difficult

"The problem has been to get the salesman properly trained in the first place and then to have him use the 10 or 15 minutes necessary in order to give the prospect a correct answer. To further speed and simplify the process, a number of manufacturers have gone a step further and have prepared detailed tables covering rooms of a great many sizes, all types of construction and exposure. In fact, these tables take into account all of the eight variable factors I mentioned, at least to a degree sufficient to assure proper results. I should say that with not over an hour of training, the average non-technical salesman could use material of this kind and make a satisfactory selection of a room air conditioner in not over two or three minutes, including the time needed to measure the size of the room.

"But the industry has not been satisfied with this—it has gone even further in speeding the selection process. Quite a number of manufacturers have developed pocket calculators. These calculators are so simple that any salesman can use them with accuracy after a few minutes of explanation. In a matter of seconds the salesman can come up with the necessary answer to the prospective buyer's question, 'Will this unit properly cool my room?'"

Lipman

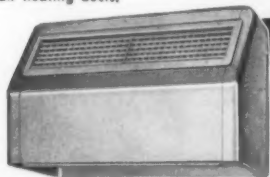
"CONVERTIBLE" AIR CONDITIONER

HOLDS DOWN INVENTORY, UPS SALES POTENTIAL



INSTALL THIS TOP FOR
Home INSTALLATIONS

This duct top permits easy attachment of the basic unit to the forced warm air heating ducts.



INSTALL THIS PLENUM TOP FOR
Commercial INSTALLATIONS

This plenum top makes a commercial unit that looks well, fits well, and operates efficiently in any surroundings. Low height of complete cabinet (only 60") makes it extremely popular.

Stock the basic unit, plus the "home" top and the "commercial" plenum top and you have two air conditioners in stock — sell your first prospect — double sales potential!



Yates-American
BELLOIT, WISCONSIN

NEW PATTERSON-KELLEY REP NAMED IN MO.

The Hester-Bradley Co., St. Louis, has been appointed exclusive representatives in eastern Missouri and southern Illinois for the hot water storage heater and heat exchanger division of Patterson-Kelley Co., Inc., East Stroudsburg, Pa.

Eugene P. Bradley has been president of Hester-Bradley since the incorporation in 1923 of his partnership with Thomas J. Hester.

OPPORTUNITIES

(Classified Advertising)

Rates: for "Positions Wanted, \$4.00 minimum, limit 25 words. For all other classifications, \$4.50 minimum for 25 words or under, each additional word 15c; boldface type or all capitals, \$7.50 minimum for 25 words or under, each additional word 20c.

TRAINING AVAILABLE

Course on sealed unit rebuilding trade secrets disclosing exclusive methods for all operations. \$12.50 or write for details. H. Custer, Box 98, Center Line, Michigan.

POSITIONS AVAILABLE

SALESMAN—One of the leading manufacturers of commercial refrigeration components is in need of a successful salesman for an eastern territory. This is more than the usual opportunity . . . it can be a secure connection for a conscientious man well experienced in contacting jobbers and manufacturers. Send references and complete information regarding sales experience. Box 9152, Commercial Refrigeration and Air Conditioning.

NEW GENERAL CONTROLS OFFICE IN HARTFORD

General Controls Co. has opened an office in Hartford, Conn., to better serve the New England states trading area.

Joe Crandley, formerly manager

of the firm's Baltimore office, has been named district manager of the new Hartford branch. Crandley's new position entails administrative direction of General Controls' Massachusetts subsidiary, Automatic Controls Co., in addition to his duties as Hartford manager. His headquarters will be at 410 Asylum St., Hartford.

Frank Murray, sales engineer at Automatic Controls Co., is now in charge of the Boston office.

NEW FLORIDA MOTELS ARE AIR CONDITIONED

A group of three two-story apartment motels of unusual modern design has been completed on Collins Avenue, in Miami Beach, Fla., including among its features central station all-year air conditioning from packaged equipment, it is reported by the Airko Air Conditioning Co., United States Air Conditioning Corp. dealer.

The three new 62-room buildings were designed without interior hallways, so that every room is an outside room with a private entrance. Second floor accommodations are reached by exterior stairways leading to covered balconies running the full length of each building on two sides.

The motels also have air conditioned main lobbies and coffee shops.

The central plant air conditioning systems use 50-ton self-contained equipment, connected to the individual rooms by supply and return duct systems. These units, which contain built-in evaporative condensers for water recirculation, are equipped with two complete 25-ton refrigeration circuits, for economy of operation under varying load conditions. The equipment can operate at half-capacity in moderate weather or when all of the rooms are not occupied.

RAYBESTOS OPENS NEW HOUSTON WAREHOUSE

Raybestos-Manhattan, Inc. has opened a new Houston warehouse at 3012 Canal St. which offers larger quarters with ample stocking facilities for servicing the expanding Gulf Coast industrial area.

The warehouse will supplement and service distributors' stocks and will permit prompt service and deliveries. The principal products carried will be conveyor belting, transmission belting, V-belts, industrial hose of all types, and asbestos and rubber packings. M. C. Nugent is in charge.



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MICROMOTORS

HAVE COMPLETE INFORMATION ON REPLACING OLD WORN-OUT MOTORS

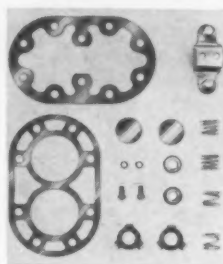
THE BIG NAME IN SMALL MOTORS

Looking for help in replacing those old worn-out motors? Distributors of Redmond products are centers for information on how to apply Redmond Micromotors and Blowers to obtain best results. They will help you make the right selection from the wide variety of Redmond models. Shaded pole Micromotors for AC operation are in sizes up to 1/10th horsepower, and Blowers turn out up to 220 cubic feet per minute.

REDMOND DISTRIBUTORS, Inc.
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DELAVAN

VALVE PLATE REPAIR KITS



Here are all the parts you need to service each specific valve plate. Has reeds, discs, retainers, springs, screws and gaskets.

Write for Catalog 50B

DELAVAN
MANUFACTURING CO.
3009 SIXTH AVENUE
DES MOINES 13, IOWA

UNIT HEATERS . . .

Continued from page 44

times when less than maximum capacity is required. Even though one large unit may cost less and be cheaper to install than two or three units, when operating costs are considered, the multiple installation may be more economical due to the smaller horsepower of the motors.

The selection of hot water or steam systems is entirely dependent upon which system is more practical and economical for the particular application. Hot water systems have a few advantages over steam systems. Installation costs are usually lower since pipe sizes at high water temperatures are often smaller than in low pressure steam systems of the same capacity. Traps, strainers, and vacuum pumps are not needed, although a circulating pump is required.

Hot water systems also make possible simpler, more accurate control. The final air temperature should always be checked when unit heaters are selected for hot water applications. The temperature must be high

enough to provide the comfortable conditions required. Too low a temperature will cause drafts.

The most commonly used steam systems are the vapor or vacuum system, low pressure gravity, and high pressure gravity.

Vacuum System: In the vacuum system, condensate and air are removed from the heater through the return main by means of a mechanically operated vacuum pump. Air is discharged to the atmosphere; condensate to the boiler.

Due to the extremely close range of temperature between the steam and condensate, a bucket or float type trap is used for condensate removal. A thermostatic trap is used for air removal.

Low Pressure Gravity: In this system, a definite steam pressure is maintained in the return main. This pressure, together with the static head between the return main and the boiler water-line, returns condensate to the boiler without mechanical means.

The return connection on the return end of the unit is usually controlled by check and gate valves, with the air valves installed between the check valve and the unit for automatic removal of air. Air should never be discharged from heaters into the return mains of a closed gravity system.

High Pressure Gravity: Operating steam pressure in this system is usually 20 pounds or more. Air is discharged through the hand operated petcock, while the condensate is discharged through a high pressure float or bucket trap to the return main. Then the condensate is discharged into the hot well or through the boiler return trap to the boiler, but never directly from the unit to the boiler.

On low pressure steam systems, the air is removed from heater units either by automatic air valves of the same type as on the gravity system, or through thermostatic traps as on the vacuum system, except that an open vent is installed on the return main; condensate is controlled by the float or bucket trap.

If desired, the same type of return specialties can be used as on the vacuum system. On high pressure steam systems, the air is removed either through the petcock on the return trap or through the open vent on the return main. This may be

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THE VICTOR

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- Every type of display case.
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- Self-Service and conventional cases.
- Variety of sizes and endless models for any store layout.
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For information write:

Victor PRODUCTS CORPORATION
HAGERSTOWN, MARYLAND
MANUFACTURERS OF THE FAMOUS VICTOR QUICKFREEZE

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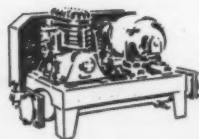
COPELAMETIC

THE *Accessible* HERMETIC

Yes... with Copelametic, the ACCESSIBLE hermetic, you eliminate 90% of all servicing problems! Now you can realize steady profits with the refrigeration unit which cancels 9 out of 10 of your service calls and is designed for speedy adjustment or repair *in the field* for the rare servicing needs. Copelametic, in sizes from 1/6 H.P. through 7 1/2 H.P., combines the best features of all types of condens-

ing units. Yet belts, seals and manual oiling, which add up to 90% of your servicing problems have been eliminated. Aim for a bigger share of refrigeration unit profits... Copeland's national advertising and traditional reputation for dependability will give you more prospects and more profits. You will discover that your most satisfied customers are your Copeland customers!

Copeland belt-driven models also available through 7 1/2 HP.



Copeland
DEPENDABLE *Electric* REFRIGERATION



COPELAND REFRIGERATION CORPORATION, SIDNEY, OHIO

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and AIR CONDITIONING • SEPTEMBER, 1952

done because return traps of the float or bucket types are designed to suit the pressure at which the system is to operate.

To be sure that unit heaters are selected to do a particular job satisfactorily, care should be taken that the unit heaters selected rated in accordance with the standard test code adopted jointly by the Industrial Unit Heater Association and the American Society of Heating and Ventilating Engineers.

HARRISBURG JOBBER OPENS IN WILLIAMSPORT

Refrigeration Supply Co., parts and supplies wholesaler with headquarters in Harrisburg, Pa., has opened its first branch office at 752 W. Fourth St., Williamsport, Pa., with formal "open house" ceremonies on Aug. 20.

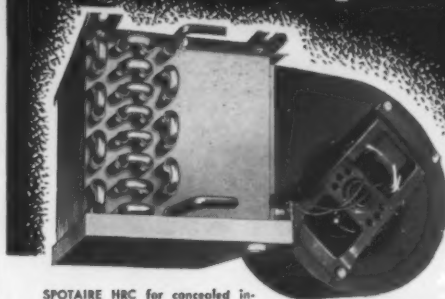
The new branch store will carry a complete stock of all items and materials required for the sale, installation and repair of refrigeration equipment, according to Russell D. Jones, president. Refrigeration Supply Co. has been in the wholesaling field for more than 16 years.

Quiet Beyond Belief!

SPOTAIRE

Series
HRC

ROOM UNIT
AIR CONDITIONER



SPOTAIRE HRC for concealed installations. Dimensions for 3R, 4R, and 6R models are the same.

SPOTAIRE HRC UNITS POSSESS SILENCE OF CENTRAL DUCT SYSTEM

HRC UNITS ARE DESIGNED FOR INSTALLATIONS WHERE QUIETNESS IS ESSENTIAL. ACCOMPLISHED BY USING A LARGE FAN REVOLVING AT LOW SPEED. (EXCLUSIVE d-h FEATURE) AND MAY BE SPECIFIED FOR HOSPITALS, MOTELS, HOTELS, APARTMENTS, RESIDENCES, AND OFFICES.

HEATS, COOLS, FILTERS,
VENTILATES AND RECIRCULATES AIR. NO DUCT WORK REQUIRED. LOW INITIAL COST. SIMPLE INSTALLATION. THE FINEST ROOM UNIT SYSTEM MADE.

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GREATER PROFIT**



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92

Circle No. 78 on Reader Service Card for more information
SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

NEW SYNTHETIC RUBBER RESISTS FREONS AND OILS

Synthetic rubber compound 614-1, newly developed for precision molded O-ring seals by Parker Appliance Co., Cleveland, Ohio, is resistant to a variety of fluids heretofore difficult or impossible to handle in rubber-sealed systems.

These include Freon and the whole range of low aniline point oils used in refrigeration, as well as the essential oils as a class.

Initial properties of Parker 614-1 are: Hardness, 70° Shore A; Tensile strength, 2000 PSI, and Elongation, 250%.

The critical volume change factor is as follows after 70 hours' immersion at room temperature in the indicated fluids:

Medium	Volume Change
Freon 12 (liquid phase)	+ 3
Freon 22 (liquid phase)	+15
Freon 13B1	0

SALE OF more than half a hundred packaged air conditioners in a town of only 700 population is reported by a single Mississippi dealer. This adds up to a saturation of better than 7% based on the total population, not just on the number of family units or business enterprises.

These figures seem to prove that air conditioning can be sold in small towns, if the dealers are ready, willing, and able to do a real merchandising job.

How many units have you sold in the small towns of your trading area?

COOLING BALANCER IS NEWEST YORK FEATURE

A new development in room air conditioning, termed "modulation control," was announced recently by York Corp. Described as a "personal comfort balancer," modulation control is a system capacity adjusting device for automatically preventing a room air conditioner from over-cooling when outdoor temperature drops.

It operates along these lines: a dial located on the cabinet of the unit permits the desired amount of cooling to be selected. After the air conditioner is started, modulation control automatically adjusts the cooling capacity to avoid over-cooling and maintain the selected comfort level.

Whenever the outside temperature drops, the control automatically reduces the amount of cooling without

changing ventilation of air circulation. Should outside temperature rise, the control then increases cooling until the predetermined comfort level is attained. An optional accessory for $\frac{3}{4}$ hp York room air conditioners, the modulation control will retail for about \$20. It is standard on 1 hp York window-type units.

JOHNSON NAMED S.P.M.

C. S. Davis, Jr., president of Norge Heat Division, Borg-Warner Corp., at Kalamazoo, Mich., has announced

the appointment of W. B. "Wib" Johnson as sales promotion manager. Johnson was formerly advertising manager of heating equipment of the Ingersoll Products Division, Borg-Warner Corp.

KINNEY NAMES DaLEE

Kinney Mfg. Co., Boston, manufacturer of high vacuum pumps and rotary liquid pumps, announces the appointment of William A. DaLee, Inc., Detroit, as exclusive sales representative in Michigan.

CHEMICAL SOLVENT COMPANY

BIRMINGHAM, ALABAMA

Announces

the appointment of

VIRGINIA SMELTING COMPANY

WEST NORFOLK, VIRGINIA

As national distributors for

**SOLVEX CLEANER,
ICE MACHINE TUBE CLEANER,
C C COATING, ETC.**

THE HEATING OF AIR CONDITIONING SIDE

By Wm. Henry Knowlton

Continuous Air Circulation

THE doctrine of continuous air circulation in the operation of winter air conditioning systems has found considerable favor with the trade in recent years.

At the time when "forced" warm air heating systems first appeared, the general practice was to operate the fan or blower from the thermostat. As a result, the system would put out intermittent blasts of very hot air in sporadic attempts to keep up with the heat loss in the building. As one very good builder aptly stated the case—"these systems either blow hot or you get cold."

Principles of Operation

The principles of proper fan or blower operation in winter apply whether the source of heat is a warm air furnace, a remote air conditioner supplied with a steam or hot water coil, or a bank of heating coils placed in a summer air conditioning system. So long as the system has a blower, the theory of continuous air circulation should be followed during the heating season, and the blower should run continuously whenever there is any need for heat in the building.

The same principle is followed in all space heating, regardless of the heating medium. For example, in a hot water system using a pump, the hot water is continuously circulated and control is obtained by changing the temperature of the water. Our objective is to constantly match the heat loss of any part of the building, to provide occupant comfort.

Selection of the proper size of furnace, conditioner, or blower will be dependent upon the total heat loss of the building in Btu's per hour. In current winter air conditioning practice the furnace, or other heating source selected, should have a bonnet capacity of from 15 to 18% more than the heat loss on the building. As most manufacturers catalogs show "bonnet capacity" and "register capacity", no difficulty should be encountered on this score.

The blower should have enough capacity to heat the building in coldest weather with an average temperature rise through the furnace or conditioner of from 85 to 100 F, while operating against the existing static pressure. For example, if a structure has a heat loss of 100,000 Btu's, this quantity divided by 85 degrees temperature rise will indicate the need for a blower handling 1,176 cfm.

Tables for the selection of furnaces and blower sizes for separate blower installations will be found in Manual 7 of the National Warm Air Heating and Air Conditioning Association and in many manufacturers' catalogs.

Control of the Blower

Setting of the blower control, or fan switch, depends upon register location. When high side wall registers or ceiling outlets are used, the blower should start when the bonnet or plenum air temperature has reached about 110 F, and shut off about 15 degrees lower than the

starting temperature. When registers are located in the floor, or baseboard, the cut-in point should be about 130 F, and shut-off 15 degrees lower.

As a result of this setting, the blower should operate for long periods in mild weather and practically continuously in weather colder than about 40 F. It will be found that more uniform heating will be obtained by circulating a reasonable volume of air continuously than by handling a larger volume of air for short periods.

Control of the Burner

During mild weather the burner should operate frequently for short periods. By so doing, the temperature of the air that is delivered to the rooms is modulated to the actual heating conditions. With air conditioning systems equipped with hot water coils, the same results will be obtained by controlling the hot water temperature. Steam coils are normally operated, as desired, by a solenoid valve.

By having the blower operate until the furnace has cooled, there is no chance for heated air to circulate by gravity to the nearest registers, and thus overheat that part of the building. It will also be found that frequent cycling of the source of heat, together with continuous blower operation, will provide controlled temperature distribution in all rooms of the building, no matter what their location, assuming the duct system is correctly designed.

Room temperatures between the floor and ceiling levels will also tend to be equalized for the greater comfort of occupants.

Location of Registers

Like other parts of any mechanical system for heating or air conditioning, location and selection of registers is often a matter of economic compromise. Going up in the economic scale we travel from baseboard registers to high sidewall registers, to deflecting registers, to patented ceiling outlets like the Anemostat.

In any event, the contractor should install the best system of registers or air outlets his customer can possibly afford, and will find a wide choice of outlets available to suit his purpose.

The National Warm Air Association recommends that registers be located "so that the air stream never discharges directly on to people at rest." This theory should be followed, where possible, even with the lowest priced registers. From the standpoint of comfort, it makes little difference where registers are located, so long as a high velocity air stream does not strike the occupant.

High sidewall registers (see Figure 1) have the advantage of introducing heated or cooled air at the "breathing line"; they do not interfere with furniture or equipment placement; and they are best adapted to summer cooling.

Further, there are many types of adjustable registers on the market which both control the direction of the air stream and reduce its velocity very rapidly.

Most air conditioning men are aware, however, that scientifically designed ceiling or sidewall diffusers that mix the air stream with room air within the diffuser itself have many advantages. They tend to temper the discharge air, and provide draftless air distribution.

Large Glass Areas

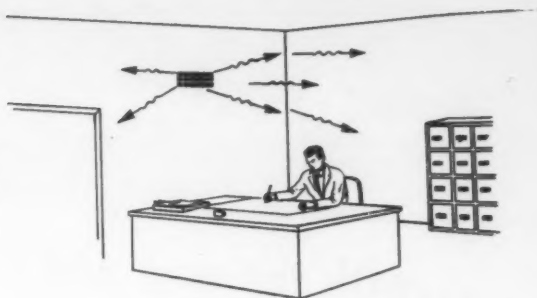
With the trend in both residences and various types of commercial buildings to larger and larger glass areas, it is recommended that narrow floor registers be installed along the base of the glass to counteract any descending current of cold air. This "screening" of large glass surfaces with warm air is important to comfort within the building.

Another method for handling windows is to let warm air escape through slots in the window sill itself

Register Location Is Important

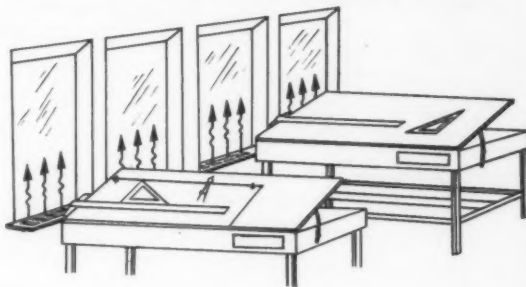
HIGH SIDEWALL OUTLETS

Locating registers high on the sidewall has the advantage of introducing heated or cooled air at the "breathing line."



WINDOW SILL GRILLES

Registers located in window sills, especially beneath large expanses of glass, counteract descending currents of cold air.



(see Figure 2). Experienced heating men know that one of the reasons for the "comfort" of loft type office buildings is that all radiation is normally located under the windows, thereby screening the glass with heat and protecting occupants from cold currents of air.

Special Register Locations

Special register locations are largely a matter of common sense and will meet the need of certain situations where no ordinary register location can be found. In these cases a little ingenuity coupled with good common sense will produce a very satisfactory result.

Return Air Locations

For effective operation of any winter air conditioning system, the return air system should be equal in capacity to the supply system. The return duct system should be tight, to avoid leakage, but there is no need for dampers or valves in these grilles.

It seldom makes a great deal of difference where the returns are lo-

cated, so long as too much air is not gathered at one point, as this tends to produce drafts. Because of the ever present limitations of building construction, return air registers are usually located in such a way that the return air duct system does not interfere with the supply system.

While return air grilles are often located under windows, when large window areas are screened with warm air, return air may be taken from the other side of the room. It is wise to locate return air grilles near the front door, or perhaps in the vestibule of the building to pick up entering cold air. In very large rooms it is also essential to have two or more return air grilles, usually located around the perimeter of the room.

Do not locate return air grilles where they will be covered or blocked by any type of furnishings or equipment. Here again, a little common sense goes a long way toward insuring the designing of a heating system that will operate as it should to provide comfort under all types of weather conditions.

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You'll make *more* with *Texaco Capella Oil (Waxfree)* because this new and improved compressor oil will *do* more for your customers. Here's an oil that *won't precipitate wax* — even down to minus 100°F. Cleaner compressor operation is assured.

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There is a complete line of *Texaco Capella Oils (Waxfree)*. Whatever the type or size of compressor, or whatever the refrigerant, there is a *Texaco Capella Oil (Waxfree)* to assure the finest possible performance.

Distributors, Dealers and Service Men alike are running up new highs in profit with *Texaco Capella Oils (Waxfree)*. Join them!

* * *

The Texas Company, 135 East 42nd Street,
New York 17, New York.



TEXACO Capella Oils (Waxfree)

FOR ALL REFRIGERATING AND AIR CONDITIONING COMPRESSORS

Faithfully yours
50
for Fifty Years

TUNE IN: On television—the TEXACO STAR THEATER starring MILTON BERLE. See newspaper for time and station.

Circle No. 80 on Reader Service Card for more information

SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

THE PRACTICAL REFRIGERATION APPLICATIONS MANUAL

Readers are invited to submit their problems to this department. Each letter of inquiry will be answered personally by the author. The most interesting ones will be published in these columns. All problems should be clearly and completely stated and addressed to: COMMERCIAL REFRIGERATION, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.

PROBLEM

"I HAVE a fur store customer who now has a fur storage room in which he stores furs for customers during the summer. This job is set up for periodic temperature drops for shock killing purposes. This customer has excessive compressor capacity most of the time and would like to install an air conditioning coil in his store using the extra capacity of the compressor running the fur storage.

"The store is small, 18 x 25 feet, but I told him it wouldn't work out satisfactorily. I am not able to convince him, however, as my competitor suggested this idea and said he could do it.

"I need some one to back me up and help convince him. I am trying to get him to buy a separate air conditioning unit. What would you suggest?"

SOLUTION

WE WOULD strongly recommend that you do not attempt to add air conditioning to the compressor load of the fur storage cooler.

The storage cooler equipment undoubtedly was engineered and designed to handle only that particular job. An air conditioning installation is an entirely different problem with different requirements.

While it may be true that if surplus compressor capacity is available it could be used for air conditioning purposes, the first problem to be considered is whether enough additional capacity is available to do the job. In order to intelligently appraise this situation, a careful survey should be made to accurately determine the exact excess capacity available with the compressor in question. In-

dentally, this extra capacity is needed whenever the shock treatment is used.

A separate survey should be made to determine the air conditioning load for the store. There are the usual load factors which must be considered in order to determine the load in this room, such as the number of people using the room, number and size of windows and openings, location of room in relation to the sun, type of building construction, whether rooms or roof are directly overhead, and amount of artificial heat from lights, motors, signs, etc.

A room 18 x 25 feet may require air conditioning capacity ranging from 5 to 10 tons of refrigeration, perhaps even more. This can only be determined through a careful survey of the load factors.

The operating range for air conditioning also is entirely different than for fur storage cooling. If an attempt were made to combine these two fields, expert engineering advice should be secured, as the use of numerous controls and accessories would be required to work out a satisfactory installation.

There also is a very grave possibility that the storage system, which we assume is now working satisfactorily, would be thrown out of control, resulting in a lot of future trouble and adjustments for the one who sold and recommended this combination hook-up.

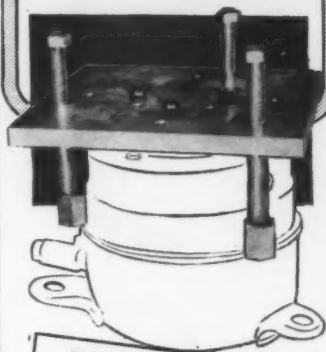
All of this potential grief is in addition to the basic possibility that the surplus compressor capacity would be inadequate for a satisfactory air conditioning job.

The storage room is an essential, income producing part of this business, and it would be very foolish to make such a proposed change which might result in continuing dissatisfaction and trouble in the future.

We would recommend that the present installation be left as is, and that a separate air conditioning unit be sold to this customer to take care of the air conditioning requirements.

HERMETIC UNIT PULLER

FOR COLDSPOT
FRIGIDAIRE
NORGE



REMOVES THE
MOST STUBBORN
ASSEMBLY IN A
FEW MINUTES!

PART No. P-9

The HERMETIC UNIT PULLER saves time and expense for the refrigeration repair-man! Now, without any difficulty whatsoever, you can remove the compressor and stator assembly from the opened shell of the hermetic unit, in a few minutes. This specially designed labor-saving device will do the job quickly and without any damage or distortion to vital parts. The HERMETIC UNIT PULLER consists of a hard cold rolled steel plate. It has 3 steel screw jacks with HARDENED BALL BEARING TIPS, and 3 Eccentric hex steel spaces. Heavily plated for durability and long wear.

FREE NEW CATALOG

Just Off the Press! No. 17

Complete line of parts and tools, with many new additional items added.

Get Your Copy NOW!



Wagner Tool & Supply Corp.

★ REFRIGERATION PARTS & TOOLS ★

40-08 22nd ST., L. I. City, N. Y.

Circle No. 81 on Reader Service Card



*There's always one that's better...
and in controls it's Ranco !*

Ranco controls always make a *hit* in the refrigeration industry! Because Ranco controls are available for more than 4,000 replacement installations . . . because they mean greater customer satisfaction . . . because servicemen can depend on them to deliver accurate, trouble-free service year after year. Be safe every time, insist on Ranco controls.

Ranco Inc.

COLUMBUS 1, OHIO



WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS

Circle No. 82 on Reader Service Card for more information

SEPTEMBER, 1952 • COMMERCIAL REFRIGERATION

HERE'S HOW!

Edited by
Warren W. Farr

Take 5 Minutes More Time; Insure Repeat Business

Anytime you install a new V-belt, don't make the mistake of just slapping the belt on the machine and then walking off the job. Instead, let the machine run for 5 minutes or more so that the belt has a chance to "seat" properly in the pulley grooves.

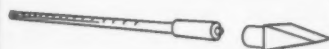
On refrigeration equipment, check the low pressure cut-off in relation to the recommended box temperature. If the back pressure is too high, it may be caused by belt slippage. In this case the belt should be tightened.

Most belts will seat properly in 5 minutes. Take these extra minutes to check your work and guarantee a satisfactory job. Satisfied customers are your best advertisement.

Your "Gadgets" Can Win Cash Prizes for You

Here's a chance for you refrigeration and air conditioning service engineers to make those special gadgets you've developed to make your daily work quicker and easier pay off in still another way.

*I do it
this way...*



HAVE you ever been plagued with the problem of a pocket thermometer which insisted on roll-over so that you could not read the markings? If so, you could benefit from a little trick I have learned.

I use a simple 2-cent eraser, of the type which slips over a pencil tip, to hold my thermometer always in a readable position.

M. E. Smoyer, Kansas City, Kansas

*I do it
this way...*

A COMMON trouble found with refrigeration units in field service is the alignment of the motor pulley with the compressor wheel. The motor pulley often is too far forward and fairly tight, making it impossible to adjust it without removing the motor.

Having faced this problem innumerable times in the field I resolved to try a new approach. By using a rod some 3/16 inch in diameter and 8 or 10 inches long I probe the condenser opposite the motor pulley and tap the pulley into alignment.

If this is done with care, no damage can result. If the rod should spread or tilt the condenser fins, a pair of long nose pliers will bring them back into shape.

Harold J. Huber, Bothell, Wash.

Refrigeration Equipment Manufacturers Association, as an extra attraction at the 10th Refrigeration and Air Conditioning Educational Exhibit and Conference in Miami, Fla., this December, is offering cash awards of \$100, \$50 and \$25 to the three best entries submitted in an "Ingenuity Contest," to get a line on some of the devices that are being used by service men nowadays.

The contest is open to any service engineer attending the Exhibit and Conference, and it ought to be a "natural" for most of you. For complete information on the contest and where to send your entries, read the article on Page 101 of this issue.

Tips on Safe Use of Bench and Stand Grinders

Every serviceman at one time or another has occasion to use bench or stand grinders in his shop work. But how many of them are aware of the

proper precautions which should be taken in the use of this equipment?

For the benefit of those who are not as familiar as they should be with the recommended procedures for using this type of equipment, here are a few safety pointers:

1. Wear goggles, even though the wheel has a glass shield.

2. See that the protection hood is on the wheel.

3. Set the work rest not more than 1/8-inch from the wheel. Stop the machine first.

4. Stand out of line when starting up.

5. Feed the work gradually. Give a cold wheel a chance to warm up.

6. Use only the face of the wheel, unless it is designed for side grinding.

7. Do not strike the wheel suddenly or use too much pressure.

8. Report at once any grinder that appears to be unsafe.

*I do it
this way...*

HOW many times have you needed a rubber hammer and not had one handy? Here's one answer to the problem. An excellent rubber hammer may be made by simply slipping a crutch tip over the end of a regular hammer. This makes a very handy tool with which to straighten copper tubing.

W. Tegner, Oakland, Calif.

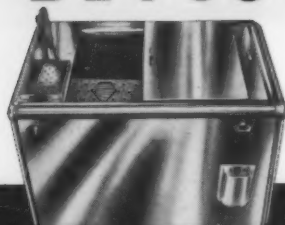
Now Is the Time to Winterize Air Conditioners

Summer is gone and winter is just around the corner, so now is the time to launch a carefully planned program of air conditioner winterization to offset the normal seasonal slump in the service end of this business.

Surely you want to hold your full

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**The First Oil Additive On The
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"ADDIT 88" will produce results in your refrigeration system that will amaze you.

- Protects your unit from overheating by reducing wattage consumption.
- Prevents stick ups due to acid and sludge formation on bearing and cylinder walls.
- Prevents accumulation of deposits that destroy bearing surfaces.
- Prevents rust and corrosion.

Once added to your refrigeration system it remains there for the life of the unit.

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100

staff of experienced service personnel throughout the winter months, if at all possible, so that you'll have an adequate staff of competent mechanics to handle your business when the hot weather rush breaks next year. One of the best ways of doing this is to keep them busy with an intelligently planned, intensively promoted program of servicing (and perhaps storing) air conditioning units.

Here are some of the benefits that such a program will bring:

1. Usefully employ maintenance personnel during an other wise slack season.
2. Increase profits from replacement parts.
3. Reduce summer service calls to a minimum and thus tend to balance the seasonal service load.
4. Permit re-installation on the customer's premises at your convenience early next spring, before the summer rush starts.

5. Prolong useful service life of units by proper preventative maintenance, handling, and storage.

Plastic Spray Protects Window Display Signs

If yours is a show window that catches a lot of summer sun, you've no doubt had considerable trouble with the fading of colors in your various window display materials. Sometimes this will happen in as short a time as a week or 10 days.

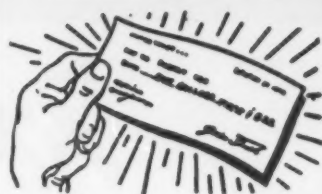
One Chicago dealer has come up with a simple and clever stunt which beats this problem and enables him to keep his window displays at full brilliance and effectiveness at all times. He simply coats all of the signs and other printed materials with one of those plastic sprays that are now generally available.

Not only does this treatment keep the signs from fading, he has found, but it also facilitates keeping them clean. It is only necessary to wipe them off with a dry rag whenever they become dusty.

Here's How Reader Protects System Against Freezing

One of the readers of this department reports that he once received a service call from one of his customers who had a 10-ton water cooled unit located in a lean-to which was exposed to the elements on three sides and the roof. The fourth wall of the

WANT TO EARN \$5?



You don't have to be a writer or a literary genius! Just jot down some of the shortcuts you've developed in your maintenance or installation work and send them to **HERE'S HOW** EDITOR, COMMERCIAL REFRIGERATION AND AIR CONDITIONING. Your \$5 will be paid promptly when your maintenance tip is published in the magazine. Let's hear from you!

lean-to was the outer wall of the main building.

This system had been installed carelessly and sloppily. During the second winter that the system was in operation, the weather turned exceptionally cold and the water lines froze.

After this reader repaired the damage to the system, he installed a temperature control in the equipment lean-to so that the water pump could not shut off as long as the temperature was below 35 F. The owner had a cistern from which he pumped his cooling water. This cistern was large enough so that waste water could be returned to it without aerating.

This same control, the reader suggests, could be connected to a solenoid valve by-passing the water valve on any system that might be exposed to extreme weather conditions.

Oil Traps and Air Don't Mix

Whenever an oil trap is used on a job, you must be sure to get all of the air out of the system. On low temperature jobs that run into vacuum, it is good practice to purge the condenser on the outlet side of the oil trap to be sure a small leak has not allowed air to enter.

When a condenser becomes air-bound, the oil trap condenses liquid refrigerant and shoots it into the crankcase of the compressor. Then before long the compressor burns out and must be replaced.

'GADGETS' CAN WIN PRIZES AT MIAMI

Something new and novel in the form of an "Ingenuity Contest" is being added to the 10th Refrigeration and Air Conditioning Educational Exhibit and Conference at Miami, Fla. on Dec. 5, 6, and 7 of this year.

At a recent meeting, the committee of the Refrigeration Equipment Manufacturers Association voted to award cash prizes of \$100, \$50, and \$25 to the three best entries submitted in this contest of gadgets.

The purpose of the contest is to reward and encourage refrigeration service engineers in their own development of devices that help them do a better, easier and quicker job in their daily work.

Many refrigeration and air conditioning service engineers have contrived special tools by ingenious methods such as a wrench to get into tight places or for special fittings . . . a puller for motor stators, pulleys, or gears . . . a fixture for lining up pipes . . . electric testers . . . liquid transfer pumps . . . a fitting for adding oil to compressors . . . lapping and grinding tools . . . compartment

tool kits . . . carrying slings . . . and a host of others.

The Ingenuity Contest is not limited to tools, however. It includes such things as an improvement or modification to a machine or an additional feature for special application. It is the usefulness and practical application of the "gadget," plus the ingenuity used in making it which counts.

Whether hand-made by the service

AIR CONDITIONING has many advantages for a food store, but we didn't know that it prevented burglaries until we heard about the case of Klein's Super Markets, St. Paul, Minn. Would-be burglars climbed to the roof of the store, but abandoned their plan to cut a hole in the roof when they found that it was covered with three inches of water, a part of the store's cooling system.

engineer himself or made to his design by a tool room or machine shop, every device will be welcomed as an entry and anyone might win the top prize.

The contest is open to any service engineer attending the Exhibit and

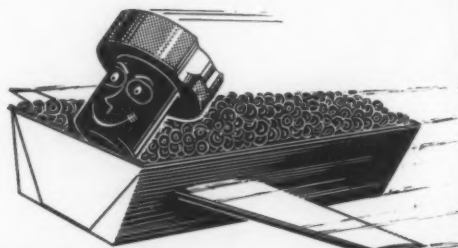
Conference. Entries should be submitted in person or sent by prepaid express to the Ingenuity Contest Committee, 10th Refrigeration and Air Conditioning Educational Exhibit and Conference, Municipal Auditorium, Miami, Fla., so as to reach the Committee no later than Dec. 4, 1952.

A contestant may enter more than one gadget, but the gadget must be of his own devising; that is, he may not enter a gadget for someone else.

The device must not be in production and for sale to others at the time of the contest, although the contestant is free after the contest to put it on the market if he so chooses, and may find this contest an aid in getting it placed on the market.

There is no fee for entering the contest and all gadgets will be returned to the contestants after the announcement of the winners. Contest will be judged by three impartial judges and their decision shall be final.

Another contest, sponsored by the Refrigeration Equipment Wholesalers Association, will be continued. In this contest service engineers are given an opportunity to vote on the



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TANKS, ETC.



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LOW TEMPERATURE
TEST ROOMS
REFRIGERATED TRANS-
PORTATION

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Bandolot-type Coolers

Now you can get your plates exactly as you want them . . . any size . . . any shape . . . any metal! Think what this means in time saved . . . **MONEY SAVED!** Before you buy another plate, get the facts on DEAN "job tailored" cold plates. It will be well worth your while! Ask your jobber, or write

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Write for Technical Data Book

most popular display, and state in 25 words or less why the display they have selected is the most educational in their opinion. The awards for this contest are a 16-inch television set, a pop-up toaster, and a portable radio.

The 10th Refrigeration and Air Conditioning Educational Exhibit and Conference is being sponsored by the Refrigeration Equipment Manufacturers Association and the Refrigeration Service Engineers Society with the joint cooperation of the Refrigeration Equipment Wholesalers Association and the Refrigeration and Air Conditioning Contractors Association.

Between 70 and 80 manufacturers are expected to furnish displays for the Exhibit sponsored by REMA.

Industry experts will speak in the three-day educational program of talks sponsored by RSES.

An added feature will be a two-hour Business Administration Program arranged through the cooperation of RACCA.

The contest to select the most popular educational display together with the prize awards for the contest are furnished through the cooperation of REWA.

YORK TO AIR CONDITION AMERICAN CONSULATES

York Corp., has received a contract from the United States Department of State to provide a substantial number of 1 h.p. room air conditioners to air condition diplomatic installations in the Near East, Africa and Asia.

They include the offices of the consulate general in Bombay, India; the American embassy in Monrovia, Liberia; the American consulate in Basra, Iraq; the American consulate in Kuwait, Kuwait; the American consulate in Aden, Saudi Arabia; the American consulate, Haifa, Israel; and the American consulate in Nicosia, Cypress.

FLORIDA POWER SETS UP AIR CONDITIONING DEPT.

An air conditioning department to serve the entire Florida Power Corp. system has been organized with Guy C. Hall as supervisor. This department will deal with all phases of the conditioning of air—cooling, heating, dehumidifying and circulating. Headquarters are in St. Petersburg.

The department's services are avail-

able without cost or obligation for technical assistance in planning or installing air conditioning and heating equipment.

Working with Hall in the new department will be Charles M. Wentz and Ralph Schroeder, air conditioning sales engineers, and Ted Betts, Paul Shaw and Bob Taylor, maintenance mechanics.

The new department was set up to streamline and coordinate more closely the expanding air conditioning activity of the company, which had been handling these services in individual departments depending upon the type of customer.

ENGINEERING RESEARCH BUYS MOTOR ADAPTOR

Motor Adaptor Corp., Detroit, has been purchased by Engineering Research Associates, Inc., of Hazel Park, a Detroit suburb, according to Harvey B. Snyder, president of the latter firm.

The Hazel Park firm has been manufacturing the adaptors, designed to simplify mounting of motors, since 1948 for the firm that manufactured and sold the device.



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DUST-FREE SILICA GEL assures more efficient drying action and far longer operation without cleaning.

SIZE INTERCHANGEABILITY — 30, 50 and 75 cu. in. sizes of refillable driers have flare unions. To change size, use reducing union.

SEE YOUR JOBBER

IMPERIAL DRIERS

. . . every cubic inch works for top efficiency

If you want a drier that does a better job quicker *because it's all drier*, then get the **IMPERIAL Torpedo**. Contains 100% Silica Gel...includes no form of binder . . . *every cubic inch is a cubic inch of drying agent*. Economically priced, yet the leaders in drying efficiency.

REFILLABLE DRIERS

Furnished with Forged Flare Nuts and Copper Seal Caps

Cat. No.	H.P. Rating	Cubic Inches	Size of Flare Connections	List Price Each
806-C	1/4 to 1/2	6	1/4"	\$3.50
809-C	1/2 to 3/4	9	1/4"	4.00
812-C	3/4 to 1	12	1/4"	4.50
			3/8"	4.75
818-C	1 to 1 1/2	18	1/4"	5.25
			3/8"	5.75
			1/2"	7.50
830-C*	1 1/2 to 3	30	3/8"	7.75
			1/2"	8.00
			3/8"	10.00
850-C*	3 to 5	50	1/2"	10.50
			5/8"	10.75
			3/8"	14.00
875-C*	5 to 7 1/2	75	1/2"	14.50
			5/8"	15.50

*Have flared unions—giving size interchangeability.

NON-REFILLABLE DRIERS

Furnished with Forged Flare Nuts and Copper Seal Caps

Cat. No.	H.P. Rating	Cubic Inches	Size of Flare Connections	List Price Each
903-C	1/6 to 1/4	3	1/4"	\$2.30
906-C	1/4 to 1/2	6	1/4"	2.85
909-C	1/2 to 3/4	9	1/4"	3.35

THE IMPERIAL BRASS MFG. CO., 536 So. Racine Ave., Chicago 7, Ill.
In Canada: 334 Lauder Ave., Toronto, Ontario

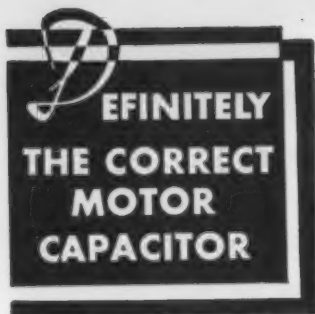
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so many motor types . . . so
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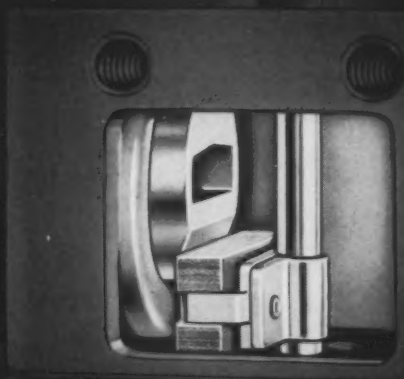
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why  water regulating valves always stay clean... even in dirty water

V-block seals water in main valve body. Water never comes in contact with spring or operating bellows. Leakproof forged-brass body.

Plastic valve shoe floats on stem. Water pressure forces shoe tightly against seat for complete shutoff. No chatter in operation.



Valve Seat is wiped clean on each cycle by unique action of shoe as it moves across orifice. No chance for dirt to accumulate on seat.

Stainless steel, corrosion resistant valve seat, ground to fine surface finish, provides lifetime tight shutoff and long wear.

CHOICE OF 2 TYPES

Model 65 water-regulating valve for Freon 12. Pressure range 65 to 200 psi.
Model 65H, for Freon 22. Pressure range 165 to 300 psi.



Both units available in $\frac{3}{8}$ ", $\frac{1}{2}$ " and $\frac{3}{4}$ " sizes. Capacity, both units, from 7.2 to 42 gal. per min.

HERE is a water-regulating valve that provides an entirely new idea in flow control for water-cooled compressors and condensing units.

The exclusive, floating plastic valve shoe and stainless-steel seat provide a combination that is absolutely self-cleaning. Aided by the water pressure, it provides trouble-free, positive shutoff — without water hammer, and unaffected by dirt, lime or sand.

The rugged, forged-brass body construction provides durable, corrosion-resistant service. An extra-strong, two-ply bellows also contributes to longer life.

Use this outstanding valve on original equipment or for replacement service. You can't beat its long life and economy. Choose either of two types, in 3 sizes... for Freon 12 or Freon 22, as indicated at left. Regulates cooling water for compressors up to 42 hp.

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IT WAS A BRIGHT EARLY DECEMBER DAY and Lieutenant Hudner was flying a Korean combat mission alongside another plane piloted by Ensign Jesse Brown. A burst of flak



caught the ensign's plane and he went spinning down, aflame. Lieutenant Hudner then deliberately crash landed near his flame-trapped shipmate. He radioed for help, after

which he fought to keep the fire away from the fatally injured ensign until a rescue helicopter arrived. Today Lieutenant Hudner says:

"Maybe if America had been strong enough to discourage aggression two years ago, my friend, Jesse Brown, might be alive right now. So might thousands more of our Korea dead.

"For it's only too sadly true—today, in our world, weakness invites attack. And *peace is only for the strong*.

"Our present armed forces *are* strong—and growing stronger. But

don't turn back the clock! Do your part toward *keeping* America's guard up by buying more . . . and more . . . and more United States Defense Bonds *now*! Back us up. And *together* we'll build the strong peace that all Americans desire!"

★ ★ ★

Remember that when you're buying bonds for defense, you're also building a personal reserve of savings. Remember, too, that if you don't save *regularly*, you generally don't save at all. So sign up today in the Payroll Savings Plan or the Bond-A-Month Plan. Buy United States Defense Bonds now!

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Buy U S Defense Bonds now!

Lt.(jg) Thomas Hudner, Jr. U.S.N.

Medal of Honor



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COMMERCIAL REFRIGERATION AND AIR CONDITIONING

